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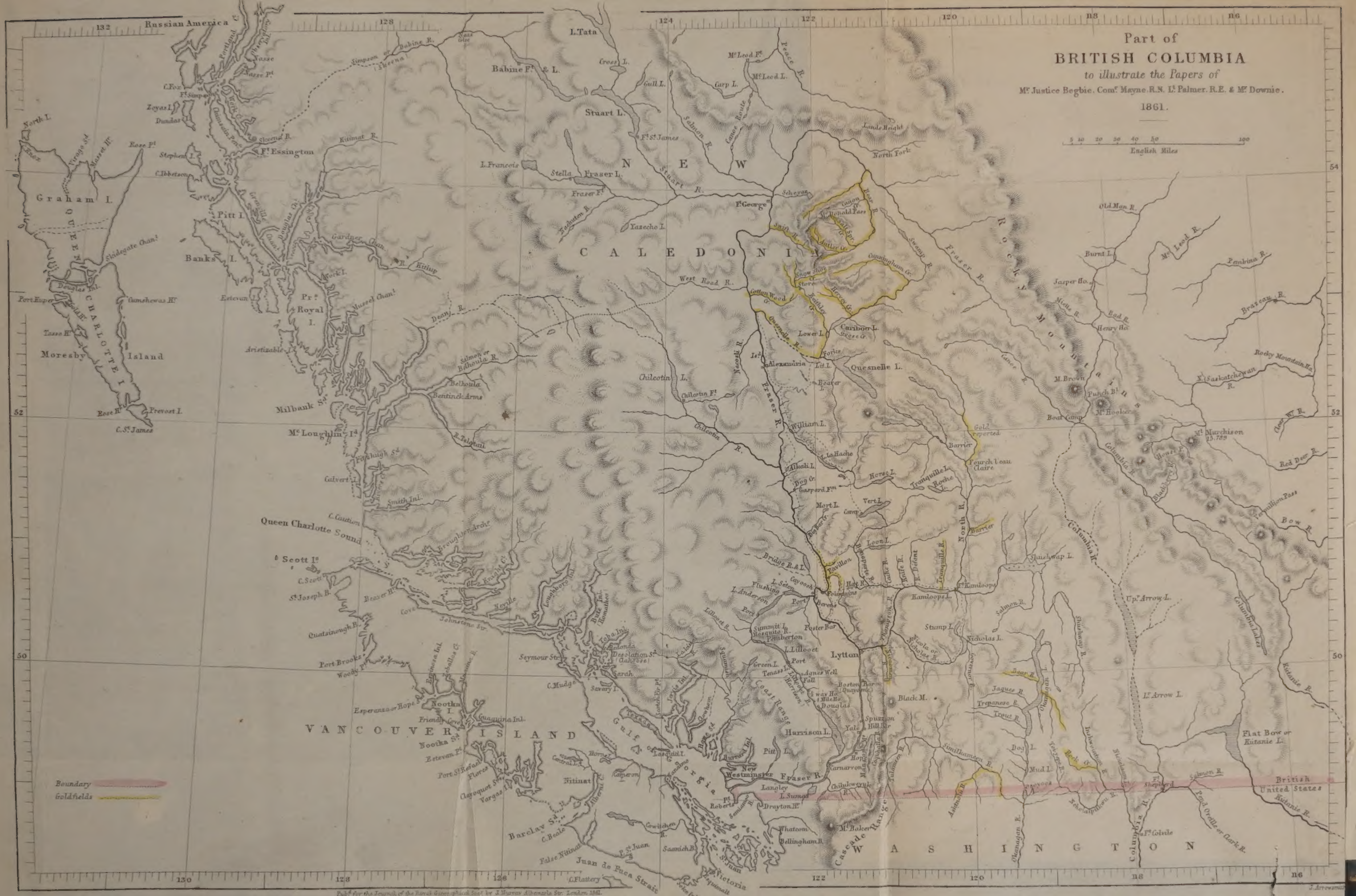

Part of

BRITISH COLUMBIA

to illustrate the Papers of

Mr. Justice Begbie. Comr. Mayne R.N. Lt. Palmer. R.E. & Mr. Downie.

1861.

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XVI.—*Report on a Journey in British Columbia in the Districts bordering on the Thompson, Fraser, and Harrison rivers.* By Lieut. Richard C. Mayne, R.N.

Communicated by the Admiralty.

Read, December 12, 1859.

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Lieut. Mayne to Capt. G. H. Richards, R.N.

H.M.S. *Plumper*, Esquimalt, Vancouver Island,
July 7th, 1859.

Sir,

I have the honour to report that, in pursuance of your orders, I proceeded to Langley, and, taking the first steamer to Fort Hope, reached that place on the 23rd of April.

I left Fort Hope on the 29th, and reached Fort Yale on the same evening.

The part of the Fraser River between Forts Hope and Yale is so well known that I need not speak of it, except perhaps to say that several rocks must be removed before it can be made reasonably safe for steam navigation.

We left Yale on the 2nd of May, and followed the river trail to Lytton, which we reached on the 7th.

The distance by trail from Yale to Lytton is about 60 miles, and the ground over which the trail passes is the roughest on which I have ever travelled, the greater part of it being over sharp pointed rocks or granite boulders. Some of the ascents in the Great Cañon, which is 6 miles long, are from 30° to 60°, and nearly perpendicular over the water. The current in the narrowest parts I estimated at 15 or 16 knots an hour. During the whole summer this part of the river is impassable for boats going up; and though some few people have come down it in safety, a great many have perished in the attempt.

There is hardly any land fit for cultivation between Lytton and Yale. There is a small flat at Spuzzum and several above Boston Bar, but they only average 200 or 300 yards long by 50 or 60 wide, and are almost all thickly timbered and covered with granite boulders. The largest one is about 9 miles below Lytton and is fenced in. It is about 1000 yards long by 400 yards wide, well covered with grass, but very sandy soil.

From Yale to Boston Bar the vegetation is limited to pine-trees and a few alders, wild onions and vetches growing among the rocks. Above Boston Bar it improves, and on the flats before-mentioned there are currants, cherries, gooseberries, and Oregon grasses in considerable quantities, and willows and maple in addition to the pine and alder.

About 2 miles above Boston Bar we found a bed of fine clay-slate running in an easterly direction, dip ranging from 5° to 40°, strike about 25°, and about 3 miles farther on we came to a bed of limestone, the only one we saw between Yale and Lytton. The surface was very small. With the exception of these two beds and a very small surface of clay-slate close to Spuzzum, we saw nothing but granite both in the mountains and in boulders of every shape and size, some at Wellington Bar being 10 or 15 tons weight.

There is a ferry at Spuzzum and another at Boston Bar. The former it is not necessary to cross travelling on foot, but the latter must be crossed to get to Lytton.

There are several "Restaurants" along the road (every place where anything can be got to eat is called a restaurant in this country), where tea, coffee, bread, bacon, and beans can be got, as well as a plank to sleep on; and these places are at such distances apart that no man possessed of any money need sleep out.

At Chapman and Boston Bars there are large stores belonging to the express-men Messrs. Wells, Fargo, and Co., and Ballon.

The mule-trail leaves the river at Yale and meets it at Spuzzum, crosses it there, and again leaves it until reaching Lytton. It was blocked up by snow when I went up.

Lytton is at the forks of the Thompson and Fraser rivers on the south bank of the former and east of the latter, and is composed of eight or ten stores and a Government House. The site of the town is nearly 300 feet above the river on the upper of two benches, the lower of which is about 200 feet above the water. The bank on the opposite side of the Fraser is in three benches, the highest being about 600 feet, and the river is 576 feet wide at this season. The opposite bank of the Thompson is about the same height as Lytton. The Thompson River is about 150 yards wide at its mouth, and there is a horse-ferry across it for trains going to the Fountain, &c., &c. It is always blowing hard from north or south, the latter wind prevailing in summer, and the clouds of dust which continually sweep across the flat make it anything but a desirable spot for a residence.

We left Lytton for Kamloop, a post of the Hudson Bay Company, on the Thompson River, on the afternoon of the 9th of May, and followed the south bank of that river for 9 or 10 miles, when we ascended a steep hill for about 1½ miles, and came to a valley extending about 10 miles to the eastward, well covered with grass and hemmed in by hills 700 or 800 feet high. From this point the aspect of the country became much more promising than the Valley of the Fraser. After traversing the whole length of this valley we went down upon the Nicola River, and fording it, followed its left bank till we came to the Nicola Lake.

The Nicola River is far prettier than any others I have seen in the country. It is very rapid and full of small islands and sandbanks, and winds along in reaches of about half-a-mile long. At each bend there is a flat of 5 or 6 acres of clear grass-land, which would be very valuable were they not constantly flooded in summer. In some places the banks are high enough to prevent this, but generally the soil does not appear to be so good as where the banks are low, and the rise of the river is so different in different years that it would require a residence of several summers to know which are flooded and which are not. Another great drawback to agriculture is a deposit of nitrate of soda, which, though we first noticed it here, appears more or less through all the country. Mr. McLean, the officer of the Hudson Bay Company, in charge of Fort Kamloop, told me that where it is in large quantities it destroys wheat, but that it has very little effect on vegetables.

Behind the flats the mountains rise from 500 to 1000 feet, but though some are bluffs of trap and sandstone, far the greater number are covered with grass nearly to their summits.

The banks of the Nicola are for the most part of clay, nearly perpendicular, and averaging about 20 feet high, but in some places they are 150 feet and in others only a few inches above the water even at this season, and lined with poplars and willows. The bed of the Nicola is much higher than that of the Thompson, there being about 1100 feet difference between the places where I left the latter and joined the former.

About 15 miles before coming to the Nicola Lake there is a valley extending to the northward, 5 or 6 miles wide. It is not quite level, but the soil appears good, though, like all this country, too sandy for an Englishman's notion of rich land. It is well covered with grass, and there are not more than ten or fifteen trees to an acre. The hills bounding it are from 700 to 1000 feet high. The indians say there is a lake in it running nearly parallel with Nicola Lake.

The Nicola or Smeehāatlon lies nearly north and south, and is about 14 miles long by 1 to 2 wide. The banks are low and covered with grass on both sides. There is not much good land on the west side, but on the east there are two large valleys, with apparently good land in them, down which run the rivers Bodimon and McDonald. Granite here for a time supersedes the sandstone and trap, and at the north end of the lake on the west side there are some very steep cliffs of it.

After passing the Nicola Lake we went along a good place of prairie by the side of a chain of small lakes or ponds, which continues till it joins the Thompson nearly opposite Kamloop. Stump Lake, or Lake Hamea as it is called by the Indians, is the largest of this chain, and is about 6 miles long by 1 to 1½ wide. After passing this, which is about 5 miles above Nicola Lake, we ascended Mount Skyetaken, at the top of which we were by the barometer 3600 feet above the level of the sea. This was the greatest height attained during our tour. The view from this mountain was very fine, extending as far as the Semilkamen Valley and Little O'Kanagan Lake, and showing a very large tract of grazing, if not farming, country. After crossing Skyetaken we passed a succession of low grassy hills, and descended to the Thompson River opposite Fort Kamloop, and, crossing the river in a canoe, reached the fort about 10 o'clock A.M. on the 14th of May.

Fort Kamloop is situated at the forks of the Thompson and North rivers, on the north bank of the former and the west bank of the latter, and is one of the prettiest sites in the country. It is at the east end of a prairie about 10 miles long by 1 to 2 miles wide, which would be very valuable land were it not so low that it is always flooded in the summer. The year before last the fort itself was flooded so much that it had to be abandoned until the water fell.

The Thompson was about 300 yards wide at Kamloop when I was there, and the North River 320 yards. There is nothing of the rushing current here that there is in every other river we met, and in this river also lower down; and the contrast is so great as to give quite a sluggish appearance to the river, which quietly winds along about 3 knots an hour, though of course it must be much more in Midsummer.

Mr. McLean considers the soil here as good, though not so fine as at the head waters of the Thompson, about 22 miles east of this, or in the Semilkamen Valley, which he considers the best place in the colony for an agricultural settlement. The land about Fort Alexandria where he resided for several years, he also considers better than this, though more subject to frost. But I believe it is a great though common error to suppose that crops are destroyed nearly every year by frost at places even further north than Alexandria, once in four or five years being a fair average. Great quantities of potatoes are grown at the head of both Thompson and North rivers by the Indians, but nothing else has been tried. At Kamloop vegetables of all kinds thrive very well. A bushel of wheat there yields on an average 15 bushels. Mr. McLean says that at Alexandria he has known it yield 40.

There is considerable trade now carried on across the American frontier, and through Kamloop to the Fraser, and to the small rivers branching off from the Thompson, on nearly all of which there are or have been miners working. A great quantity of spirits and other things were smuggled into the country this way last year.

Gold has been found in the rivers Tranquille, Defont, Nicola, and Nicaomen, and silver in the latter, by Mr. McLean, and I believe he sent the first gold that was found in British Columbia from the last-named river. He assured me also that he had seen copper obtained by the Indians from a mine on the north bank of the Shushwap Lake, so pure that they made arrow-heads, pipe-stems, &c., of it.

There is a trail from this to Fort Hope which is always used by the servants of the Hudson Bay Company for transporting their goods to and from the northern parts. It is, however, dangerous in some parts, and a number of horses are lost each time the fur-brigade comes down. There is a bad swamp 7 or 8 miles long, and a steep mountain, Manson Mountain, both of which they have to cross. It takes them ten or fifteen days to go from Kamloop to Hope; but I am told that, travelling without luggage, it could be done in three or four days. A man has gone from Kamloop to Langley in five days.

The Indians all over the country suffered fearfully from want of food last winter, a great many dying of starvation. It was owing in a great measure to their improvidence, most of them leaving off the fishing, hunting, &c., last summer in the general mania for gold-digging, and making no provision for the winter. This state of things accounts for the number of thefts perpetrated on miners and others by them, their only choice in most cases being to steal or die. I think they can hardly be wondered at for preferring the former.

We left Kamloop for the Pavillon on the 17th May, and rode along the north bank of the Shuswap Lake as far as Tranquille River; after fording which we ascended a steep hill to the northward and opened about 3 miles of very nice grass-land, and then coming down again followed the lake to the copper-mine, at the foot of which we camped. It is in a bank of about 800 feet high that the copper is found, but we searched from top to bottom without finding any, though everything was coloured with it.

The road along the north side of Shuswap Lake is very rough, the hills sloping down to the edge of the lake. After about five hours' riding we reached the river Défont, across which we had to swim the horses, an undertaking which the force of the current makes both difficult and dangerous to perform, though the river is only 20 or 30 yards wide. The west bank of this river is about 250 feet high, on ascending which there is a grass plain 5 or 6 miles long, and from that to the River de la Cache is all good grazing-ground, and indeed I might almost say all the way to the Pavillon. There is a small stream two yards wide between the rivers Défont and De la Cache, which is dignified by the name of Conteaux River, and here we left the Thompson and turned a little northward, the river running away to the southward.

All the Thompson River from the Shuswap is very much like the Nicola, but larger and not so pretty. The soil near the River de la Cache is very good, but covered with soda. The river is small and shallow, but just above where it joins the Bonaparte being the best ford in that river makes it a good place for a revenue station, as the Bonaparte River must be crossed in going to either Fountain or Pavillon, except by going round to Lytton, where there is a magistrate.

We crossed the Bonaparte River on the morning of the 19th May, finding only 3 ft. 6in. of water in the deepest part of the ford, which was an agreeable surprise, for we expected this to have been the worst of all the rivers as it was far the largest we crossed between Kamloop and Pavillon, and we had been told the deepest. We skirted along a steep hill on the north side of it, down which one of the pack-horses fell, though fortunately without injury, and we then came down again on the river. This hill would be avoided if the river were bridged, as the bridge would be thrown across higher up, where the trail crosses the stream in winter, but the river at this season is too deep for fording at that part. The valley of the Bonaparte is not quite so much covered with the nitrate of soda as the other valleys we passed through; indeed, neither the Bonaparte or Chapeau valleys contains so much of it as those of the Thompson and Nicola.

We followed the north bank of the Bonaparte for about 7 miles till we met the Chapeau River, from whence we followed the Chapeau for 12 miles, crossing the river several times. The Bonaparte turns northward after its junction with Chapeau to Lake Loon, in which I believe it takes its rise.

The Chapeau River is a remarkable one, though only 10 or 12 yards wide, inasmuch as it and the Thompson make an island of about 25 square miles of country, in the same way that the Nicola and Thompson make one of 40 square miles farther south. After leaving the Bonaparte it turns westward for about 12 miles, and then turns southward, joining the Fraser about 18 miles above Lytton. Its banks are from 20 to 60 feet high, and the valley averages 800 yards in width. Here the limestone commences, and from this to Lake Pavillon there is hardly anything else.

Leaving the Chapeau we turned north, and through a narrow valley between perpendicular limestone mountains 4000 to 5000 feet high, and came to a small lake (Crown), immediately beyond which is Lake Pavillon, which is about 6 miles long and ¾ of a mile wide. At the north end of this lake there is a most curious peak like a round tower, called by the Indians Skille Pāalock; and about a mile farther on is a farm of about 20 acres, on which three Americans are at work. They had not tried grain when I was there, but said they thought the soil good. Four miles more along the north bank of the

Pavillon River, which runs from the Lake to the Fraser, brought us to the Pavillon itself.

The Pavillon is on the east bank of the Fraser, on a bench 600 feet above the river, very similar to that at Lytton. The wind blows and the dust flies in the same manner. There is one wooden house and several huts of canvas and boughs, which, like their log contemporaries in the Cañons, are called restaurants. Flour was 35 cents per lb. and bacon 75 when I was there. In the winter flour was as high as 85 cents, and bacon 1 dollar 50 cents.

The charges for carriage of goods, &c., now are from Pavillon to Kamloop 25 cents per lb.; to Fountain, 6; to Cayoush, 8; and to Big Bar, 8. From Lytton to Big Bar 30 cents. Big Bar is about 18 miles above Pavillon. Silver and copper have both been found at the Pavillon; the latter I have seen.

We left Pavillon on the 23rd of May, and walked by a very good trail to the Fountain. The Fountain, so called from a small fountain there, is a very much prettier and better site for a town than Pavillon: the latter, however, possessing the great advantage of limestone, none of which I saw at the Fountain, though I do not doubt there is some not far from it.

There is a considerable bend in the river at the Fountain, which shelters it to a considerable extent from the north and south winds. There are two or three large stores here, and some half-dozen log-huts scattered over the flat. There is a valley at the west end of the flat which extends southwards as far as Foster Bar, and through which there is a good trail.

About 3 miles below Fountain, on the opposite side of the Fraser, is Bridge River, where there is a large store belonging to Messrs. Fraser and Davis, who have thrown a wooden bridge about 40 yards long across the river, 800 yards from its mouth, for crossing which they make the miners pay 25 cents a head; they having, I am told, pulled down a bridge the Indians had made, and on which it was quite safe to cross. About 1½ mile below this is French Bar, where there is a ferry, by which we crossed; and 2 miles farther, on the west bank of the river, is situated Cayoush.

Cayoush is at the junction of the Tukumeth and Fraser rivers, where the Harrison Silloet route commences, and is the prettiest place I saw on the Fraser. Four or five huts, and the same number of stores, compose the town on the west side. On the east side the Hudson Bay Company are building a fort, to be called Fort Berens. It is to stand on the lowest of three benches, into which the bank is divided about 50 feet above the water. There is a ferry at Cayoush, and a trail on either side of the river to Lytton. The drawback to the one on the west side being that the Tukumeth is not always fordable. On the 24th May we again left the Fraser, and struck down the Harrison Lilloet route, and, following the Tukumeth, camped at the north end of Lake Seton, where there are a few huts for the boatmen who ply on the lake.

The following morning we crossed Lake Seton in four hours, and Lake Anderson the same afternoon in five. The two lakes are about the same size, and have much the same appearance, but Lake Anderson tends much more to the southward than the other. Both are bounded by steep mountains 3000 to 5000 feet high, and both are very deep. There is no perceptible current in them and hardly any rise and fall. Southerly is the prevailing wind, and it blows nearly always during the day, the morning and evening being calm. These lakes are separated by a neck of land 1½ miles wide, which is nearly level, and through which runs a stream 20 or 30 yards wide. Port Anderson is at the south end of Lake Anderson. There is a large restaurant there for the entertainment of muleteers, &c., &c.

From Port Anderson to Port Pemberton is the Birkenhead Portage, or, as it is now generally called, the Mosquito Portage, which name it certainly well deserves. It is about 25 miles long by the trail, which is on the whole good.

There are regular trains of mules on both this and the next portage. When I was there they charged 8 cents per lb. for packing along this one, but in the winter it was 12 cents.

About 9 miles from Port Anderson is Summit Lake, which is a mile long, and from which the waters run north and south. It is about 800 feet above Port Anderson and 1800 feet above the sea. Half-way between ports Anderson and Pemberton there is a large bed of clay-slate nearly 2 miles long. There is a river, called the Scaarlux, running the whole length of this portage. The banks are low and covered with willows, &c., and many small streams run into it on both sides. The valley of the Scaarlux averages about 1500 yards in width, except at Port Anderson, where it is nearly 2 miles wide. It is bounded by mountains 1000 to 5000 feet high, and generally very steep. There were quantities of wild peas, lettuce, and berries on all the level spots. There are only two valleys of any size running off from it, one near Port Anderson on the east side, and the other near Port Pemberton on the west.

We reached Port Pemberton at 11 A.M. on the 27th. Port Pemberton is on the north bank of the Lilloet Lake, and contains half-a-dozen restaurants and huts occupied by muleteers and boatmen. There is a large flat on the lake opposite to it, which dries the whole way across in the winter, and goods have to be landed a quarter of a mile lower down, but at this season there is a passage wide enough for a boat to come up to a wharf which has been built abreast the town. About 2 feet is the extreme rise and fall on this lake, and there is never any perceptible current.

We left Port Pemberton at 3 o'clock the same afternoon, and arrived at Port Lilloet about 7·30 p.m. We were treated on our arrival there to the first rain that had fallen on the lake this year, and it continued all night. There is only one store and an old barn at Port Lilloet. We left Lilloet next morning for Port Douglas by what is called the Douglas Portage. There is a small lake, or rather a continuation of the larger one, for about 4 miles from Port Lilloet; and from the south end of this, Little Lilloet Lake as it is called, flows the Lilloet River, the mouth of which is at the Great Harrison Lake about a mile below Port Douglas. At this season the Lilloet River is entirely unnavigable, on account of several dangerous rapids, in one of which there is a fall of 10 or 12 feet, but in the winter considerable quantities of goods were brought up the river in canoes, with a great saving of expense to the merchants, the Indians charging 5 cents per lb. from Port Douglas to Port Lilloet, when the mule-trains were charging 15 cents.

Following the east bank of this river about 8 miles we came to the hot spring (St. Agnes' Well). The temperature of this spring is, I should think, about 160°, but the thermometer we had with us when we were there was only graduated to 120°, and it went up to that instantaneously. It flows in a small stream from the centre of a large knob of conglomerate rock (specimens of which I have sent among others to his Excellency the Governor) into a basin at the foot of the rock. I brought a bottle of it down with me, but the quantity was not sufficient for analyzation.

We camped that night (29th) at the Akotzstar River, and reached Port Douglas at 3 P.M. next day.

We observed no new features on the Douglas Portage, and no limestone since leaving Pavillon.

The Lilloet River is very rapid, averaging 80 to 90 yards in width, but varying from 30 to 130 yards. There is a large stream called the Amockwa running into it from the southward about 9 miles below Port Lilloet, and another from the same direction called the Zoalkleen about 10 miles above Douglas. This latter is said to come from a lake called Zoalklinckt. The trail passes over many steep places which I think might have been avoided;

but as Lieut. S. Palmer, an officer of the Royal Engineers, is examining it more fully than I did, with a view to making alterations in the route, it is needless for me to make any remarks on this subject. The cedars on the side of the hill above Port Douglas are the finest I have seen in the country. I was told by a Frenchman that he had found gold-bearing quartz about 10 miles above Port Douglas.

Port Douglas is situated on a flat at the head of a small lake, about a mile long, which is called Little Harrison Lake. In summer the water rises some distance over this flat; I am unable, however, to say how far, as the water was not at its highest when I was there; but even then some of the houses had two or three feet of water under or in them, according as they were built on piles or not.

Between the Little and the Great Harrison lakes there is a narrow passage nearly half-a-mile long. In summer there is sufficient water in it for the flat-bottomed steamers to go through, but in winter there are only four or five inches, and it is generally frozen over.

The Great Harrison is the largest of the chain of lakes. It is about 30 miles long and in some places 5 or 6 miles wide, in appearance much similar to the others. There are two large valleys on the E. side, one running E.S.E., and the other N.E. The latter is said to extend nearly to Lytton.

There is a stream running down it which I think takes its rise in the Cayoush Lake. At the entrance to the Great Harrison Lake there is a flat, which, like the small passage at its head, dries or nearly dries in winter, thereby blocking out steamers for at least seven months in the year; so that during the winter all goods have to be landed at the entrance of Harrison River, and taken up the lake in boats. This difficulty may be overcome, either by making a canal for the river steamers to pass through, or by making a road from the entrance of Harrison River to the south end of the Great Harrison Lake, and keeping a steamer inside the lake to carry the freight to Port Douglas; or it may be found better to cut a road from the Fraser River through the valley of the south end of the Great Harrison Lake, avoiding Harrison River and the flat altogether. One of these three things must be done if the Harrison Lilloet is to be the high road to British Columbia. It is thought that the opening of a road from Fort Hope to Boston Bar will cause the valley of the Fraser to be used for transporting goods into the interior; but I think this a mistake, except of course as far as the mining bars between Yale and Lytton are concerned. In the first place Lytton is not in so central a position with regard to the mining-regions as Cayoush, Fountain, or Pavillon. And the trail from Fountain to Lytton is much better from Boston Bar to that place.

Gold has now been found in large quantities at Alexandria, and from Pavillon there is a trail through a valley parallel to the Fraser, along which a waggon might be driven nearly the whole way.

There is gold in almost all the tributaries of the Thompson River also, and the road from Kamloop to Fountain or Pavillon is much better than between Lytton and Kamloop.

The country about Chilcoaten is, I am told, very good. A Canadian residing at Pavillon informed me he had travelled from Fort Chilcoaten to the lakes on Bridge River, through a valley parallel to the Fraser, and he knows an Indian who has been from thence to Port Douglas by a route leading down the valley east of the Lilloet; and both of these routes he describes as being over good land, and such as a road might be made on without great difficulty.

Between Fort Chilcoaten and the sea there is a chain of mountains through which there are two known passes, one by the West Road River, up which Sir A. McKenzie went, and the other at the head of Chilcoaten River, which has never yet been crossed by a white man. When Mr. McLean was at Fort Alexandria he received a letter from the *Beaver*, lying in North Bentinck Arm, in three days by the latter route.

The change of temperature is very remarkable in British Columbia. I have seen the thermometer at 31° at daylight in the shade, at noon the same day 85°, and 40° again in the evening. I append a table of meteorological observations taken during my tour, as well as those taken on board H.M.S. *Plumper* at the mouth of the river during the same period. The absence of animal life is also very remarkable. The only birds we saw were about half-a-dozen partridges, a few humming-birds, American robins, and one or two other species of small birds. There are rattlesnakes in the country, and the chief of the Shuswap Indians told me that his people were frequently killed by their bite; but we saw only one.

I have sent, according to your order, to his Excellency the Governor the geological specimens collected by Dr. Samuel Campbell. A small collection of plants made also by that officer has been given to Dr. Wood.

I cannot close this without expressing my sense of the great obligation I am under to Dr. Campbell, R.N., for his zealous and hearty co-operation on all occasions.

I have also to acknowledge with pleasure the great kindness I received at the hands of the gentlemen of the Hudson Bay Company wherever I met them.

ABSTRACT of BAROMETER, ATTACHED THERMOMETER, and TEMPERATURE of the AIR.

Date.	Time.	Barometer.	Attached Therm.	Temp. of Air.	Date.	Time.	Barometer.	Attached Therm.	Temp. of Air.
1859. April					1859. April				
1	Noon	30·37	50	47	15	Noon	30·42	58	51
	Mid.	·37	49	44		Mid.	·22	58	46
2	Noon	30·43	54	48	16	Noon	30·20	62	48
	Mid.	·38	51	44		Mid.	·17	54	47
3	Noon	30·47	49	49	17	Noon	30·28	59	51
	Mid.	·45	52	43		Mid.	·13	55	43
4	Noon	30·46	59	53	18	Noon	30·16	59	49
	Mid.	·40	55	46		Mid.	·16	54	43
5	Noon	30·36	55	51	19	Noon	30·34	54	49
	Mid.	·17	53	41		Mid.	·34	51	38
6	Noon	30·13	59	51	20	Noon	30·30	55	52
	Mid.	·03	57	47		Mid.	·19	55	41
7	Noon	29·97	57	47	21	Noon	30·13	59	59
	Mid.	·78	53	47		Mid.	·08	56	44
8	Noon	29·76	55	48	22	Noon	30·04	59	56
	Mid.	·74	50	45		Mid.	·02	55	48
9	Noon	29·77	56	47	23	Noon	29·93	60	55
	Mid.	·67	47	43		Mid.	·86	57	45
10	Noon	29·63	48	45	24	Noon	29·86	51	54
	Mid.	·75	46	42		Mid.	·99	56	57
11	Noon	30·02	50	43	25	Noon	30·16	55	52
	Mid.	·04	43	32		Mid.	·19	56	50
12	Noon	30·15	53	42	26	Noon	30·22	54	50
	Mid.	·26	51	43		Mid.	·11	54	47
13	Noon	30·48	58	45	27	Noon	30·03	52	50
	Mid.	·53	53	46		Mid.	29·99	51	44
14	Noon	30·62	59	48	28	Noon	30·08	52	47
	Mid.	·57	57	48		Mid.	·08	57	45

ABSTRACT of BAROMETER, &c.—*continued.*

Date.	Time.	Barometer.	Attached Therm.	Temp. of Air.	Date.	Time.	Barometer.	Attached Therm.	Temp. of Air.
1859.					1859.				
April					May				
29	Noon	30·06	54	49	26	Noon	30·25	62	64
	Mid.	29·93	53	47		Mid.	·03	59	54
30	Noon	29·96	56	51	27	Noon	29·98	64	62
	Mid.	·94	53	41		Mid.	·87	61	56
May					28	Noon	29·90	60	55
1	Noon	29·92	59	53		Mid.	·91	56	53
	Mid.	·93	56	53	29	Noon	29·99	49	52
2	Noon	29·85	64	60		Mid.	·98	57	51
	Mid.	·88	58	50	30	Noon	29·95	60	57
3	Noon	29·95	63	58		Mid.	30·10	57	50
	Mid.	30·08	58	51	31	Noon	30·40	61	54
4	Noon	30·31	59	50		Mid.	·40	56	49½
	Mid.	·28	53	45	June				
5	Noon	30·13	54	58	1	Noon	30·35	59	57
	Mid.	29·93	58	57		Mid.	·15	59	55
6	Noon	29·90	55	55	2	Noon	30·10	59	57
	Mid.	·94	57	52		Mid.	29·96	61	57
7	Noon	29·92	60	57	3	Noon	29·97	66	65
	Mid.	·78	55	49		Mid.	·86	64	61½
8	Noon	30·85	57	52	4	Noon	30·22	65	63
	Mid.	·04	52	46		Mid.	·38	60	52
9	Noon	30·15	60	49	5	Noon	30·28	60	58
	Mid.	·15	56	45		Mid.	·04	57	54
10	Noon	30·18	58	48	6	Noon	30·22	54	54
	Mid.	·12	52	44		Mid.	·27	56	52
11	Noon	30·30	58	52	7	Noon	30·24	57	57
	Mid.	·42	57	50		Mid.	·34	57	56
12	Noon	30·54	62	58	8	Noon	30·38	62	61
	Mid.	·45	59	51		Mid.	·09	61	57
13	Noon	30·02	69	64	9	Noon	29·98	62	63
	Mid.	·15	63	53		Mid.	·87	66	62
14	Noon	30·14	71	68	10	Noon	30·01	71	67
	Mid.	·06	63	57		Mid.	·03	65	60
15	Noon	30·15	63	67	11	Noon	30·11	62	59
	Mid.	·10	64	59		Mid.	·06	66	59
16	Noon	29·99	60	57	12	Noon	30·12	59	56
	Mid.	·00	59	54		Mid.	·02	60	55
17	Noon	30·10	63	63	13	Noon	30·15	63	59
	Mid.	·02	61	55		Mid.	·18	58	52
18	Noon	30·10	58	59	14	Noon	30·18	64	60
	Mid.	·22	57	57		Mid.	·02	59	54
19	Noon	30·31	62	58	15	Noon	29·99	57	55
	Mid.	·26	60	50½		Mid.	·99	60	57
20	Noon	30·33	64	59	16	Noon	30·15	65	55
	Mid.	·29	60	52		Mid.	·18	61	54
21	Noon	30·18	65	59	17	Noon	30·28	60	60
	Mid.	·05	66	50		Mid.	·15	61	52
22	Noon	30·05	56	55½	18	Noon	30·15	58	58
	Mid.	29·92	55	48		Mid.	·05	60	55
23	Noon	30·15	60	52½	19	Noon	30·25	61	59
	Mid.	·28	54	47		Mid.	·35	58	52
24	Noon	30·50	61	55	20	Noon	30·38	64	58
	Mid.	·51	58	49		Mid.	·23	58	56
25	Noon	30·52	64	56					
	Mid.	·39	59	51					

METEOROLOGICAL OBSERVATIONS taken in BRITISH COLUMBIA during the Months of APRIL and MAY, 1859.

ate.	Barometer and Thermometer attached.								Thermometer.				Remarks, Place, &c.
	6 A.M.		Noon.		5 P.M.		10 P.M.		6 A.M.	Noon	5 P.M.	10 P.M.	
859.													
pril		°		°		°		°					
20	.	.	.	.	.	.	30·11	·65½	..	..	..	..	Weather very fine; at Langley, Fraser River.
21	30·10	67	.	.	.	.	.	.	..	..	..	..	Fine night; overcast.
22	.	.	.	.	.	.	.	.	..	..	..	..	Fine.
23	.	.	.	.	.	.	.	.	..	..	..	..	Ditto; at Fort Hope.
24	.	.	29·54	61	.	.	29 71	58	..	54	..	54	Ditto; force of wind 4·6.
25	29·86	51	29·92	54	.	.	29·97	54	51½	54½	..	54	Cloudy; slight showers, &c.
26	.	.	29·97	56	29·97	57	29·98	57	..	54½	54	47	Cloudy.
27	29·79	56	29·75	56	29·78	57	.	.	58	60	51	47	Ditto.
28	29·83	53	29·83	53	29·85	56	29·86	53	45	50	48	38	Ditto; slight showers.
29	29·87	53	.	.	29·50	50	29·53	53	45	50	48	38	Very fine.
30	29·57	54	29·57	54	29·61	63	.	.	45	50	48	38	Cloudy; Fort Yale, F. R.
ay													
1	.	.	.	.	29·53	62	.	.	..	..	..	..	Fine; at Fort Yale.
2	29·51	51	29·52	61	29·50	58	.	.	51	60	53	50	Very fine.
3	29·47	40	29·47	81	.	.	.	.	40	85	50	48	Ditto: at Ferryhouse, F. R.
4	29·60	54	29·76	62	29·72	61	29·78	57	53	63	61	54	Ditto; passing along river.
5	29·72	47	29·36	65	29·08	73	29·98	59	41	69	60	50	Ditto; Therm. in sun 84°; at Boston Bar.
6	28·87	51	29·47	77	29·13	74	29·07	58	45	73	74	56	Ditto; ditto 80°.
7	29·02	51½	.	.	.	.	28·78	57	50	..	..	52	Ditto; force of wind 3·5.
8	28·47	51	.	.	.	.	.	.	50	64	48	44	Ditto ditto.
9	29·02	44	29·07	54	29·21	61	29·06	47	40	61	54	42	Fine; Lytton, F. R.
10	29·11	44	26·50	64	27·72	50	27·70	48	43	64	50	37	Ditto ditto.
11	27·75	48	28·04	65	27·85	60	27·85	55	30	65	55	55	Weather fine; passing along the Nicola River.
12	27·92	43	27·97	64	27·42	60	27·81	48	42	70	63	40	Ditto.
13	27·80	41	27·40	65	26·25	70	26·65	44	30	79	70	45	Ditto; on top of Skytakew-hill, near Fort Thompson.
14	26·60	40	28·62	72	28·58	66	26·65	44	32	72	65	50	Ditto; at Fort Kamloop or Thompson.
15	28·88	46	28·53	80	.	.	28·44	68½	46	76	70	68	Ditto.
16	28·28	69	28·26	73	28·35	62	28·50	58	65	70	50	50	Ditto.
17	28·65	65	27·69	72	27·62	72	28·42	62	65	73	60	58	Ditto; at Lake Shnewap.
18	28·41	58	28·44	77	28·11	63	28·19	55	48	82	56	50	Ditto; therm. in sun 127° at noon.
19	28·17	39	27·61	69	27·10	67	27·10	56	34	80	56	53	Ditto.
20	27·11	49	27·71	73	28·46	73	28·28	62	48	80	67	64	Ditto.
21	28·21	58	28·17	73	28·17	79	28·10	60	60	80	73	60	Ditto; force of wind 4·6. At Pavillon, Fraser River.
22	28·14	53	28·06	71	28·00	55	28·25	55	51	75	58	55	Ditto; slight showers, &c.
23	28·09	49	28·70	67	28·60	63	29·25	55	40	68	63½	59	Cloudy; slight showers, &c.
24	29·49	53	29·84	67	29·55	72	29·54	57	52	70	67	55	Very fine.
25	29·54	55	29·32	80	29·15	60	29·15	58	55	80	72	60	Therm. in sun 90°.
26	29·17	55	29·02	70	28·24	67	28 08	59	55	70	65	59	Passing along the Harrison and Lilloet Trail.
27	28·00	51	29·06	72	28·90	63	28·89	61	50	72	68	61	A.M., fine; P.M., very rainy.
28	28·83	56	28·88	62	29·21	57	.	.	56	65	60	58	Cloudy; slight showers.
29	29·28	53	29·42	60	29·77	59	29·75	57	53	60	55	53	Ditto ditto.
30	.	.	29·67	56	29·74	53	29·82	52	53	60	55	52	Heavy squalls of rain; at Port Douglas.
31	29·92	49	30·12	59	30·21	53	30·17	49	49	60	53	49	Fine; at Harrison Lake.

XVII.—*Report on the Harrison and Lilloet Route, from the Junction of the Fraser and Harrison rivers to the Junction of the Fraser and Kayosch rivers, with Notes on the Country beyond, as far as Fountain.* By LIEUTENANT H. SPENCER PALMER, R. E.

Communicated by the ADMIRALTY.

Read, December 12, 1859.

Lieut. PALMER to Col. R. S. MOODY, R.E., F.R.G.S., &c.

SIR, May, 1859.

As the existing route from Queenborough to Douglas can be performed throughout by steamers at certain seasons of the year, I deem it unnecessary to describe it in detail, dwelling only on those points where engineering works will be necessary to establish it as a permanent route for river steamers at all times.

The Harrison River runs into the Fraser from the northward, at about 35 miles by water above Fort Langley. At the mouth the river is broad and deep, and the current by no means swift, the water of the Harrison being backed up by that of the Fraser at this season of the year. About 3 miles, however, from the mouth it is extremely shallow and rapid, and although a channel does exist, which will admit of bateaux drawing 1 foot or 18 inches of water being towed through at the lowest stages of the water, it is a great deal too tortuous, narrow, and shallow, to admit of the passage of steamers of the class at present running on the Fraser, except at high stages of the water.

To render this route permanent it will be necessary to form a channel through these shallows of a considerable width (say 40 feet), which shall maintain a depth of at least 3 feet at all times.

At the time I made my reconnaissance the water was too high to admit of my forming any decisive opinion as to the works necessary for the above purpose; but from such information as I have been able to collect, in addition to what I observed myself, the portion that would have to be deepened is not more than a quarter of a mile in length.

I am of opinion that the simplest and easiest way to effect the formation of this channel would be by draining at the upper end of the shallows, an operation that would be greatly facilitated by the existence of the numerous small islands and bars with which this portion of the river is studded, and which, although covered at high-water, are perfectly dry in the fall of the year.

The damming might be effected in two ways: either, 1stly, so as to close the heads of the numerous slews and creeks through which the water at present runs, and thus drive it into one main channel; or, 2ndly, the water might be forced through a narrow channel by the construction of wing dams at such points as might be necessary.

The actual method to be employed can only be decided on by inspection at low-water; but, as the river at this part is from 500 to 600 yards wide, I am of opinion that the forcing of so large a body of water through a comparatively narrow aperture would have the effect of deepening the channel to the necessary extent without any excavation whatever. From this point to the head of Harrison Lake, a distance by water of 40 miles, no obstruction whatever exists to the navigation. The lake, which is 34 miles in length, is bounded on either side by cliffs so rocky and precipitous in most places, as almost to preclude the possibility of constructing a road along its margin; and the formation of a channel through the shallows of the Harrison River will, in consequence, be necessary as a preliminary step to ensure constant communication with Douglas.

A short narrow creek, about half a mile in length, connects the north corner of Harrison Lake with a smaller one, called at present "Lake Douglas," about 1¼ mile in length and ¾ mile extreme breadth.

At the lower end of Douglas is a flat, shallow, gravelly bar; on which, although in summer time there is sufficient water to allow of the passage of steamers, there are not above five or six inches in winter.

There is also an extremely sharp bend in the creek, just below the bar, which is with great difficulty rounded by steamers, even at the highest stage of the water, and which at low-water, when the creek is not more than one-third of its present breadth, would, in my opinion, be impassable. I also think that the nature of the soil is such that, even if a passage were cut through the bar, there would be every probability of a fresh deposit taking place, owing to the sharp bend immediately below; and coupling this opinion with that above expressed, relative to the difficulty of turning the bend, I conclude that to ensure a constant steam-communication with Douglas, it would be necessary to cut a new and straight channel, connecting Lakes Harrison and Douglas.

The town of Douglas is situated at the head of the lake, on ground which descends to the water at a considerable slope and rises in rear of the town to a height of about 300 feet. This ground is a gully between two mountains, portions of chains which extend down either shore of the lake.

The town site is heavily timbered, with little or no land in its immediate vicinity which could be made use of for agricultural purposes.

Adding to these defects the fact of its being embosomed in hills, which render this mode of egress to the interior by roads extremely difficult, and the insufficient depth of Douglas Creek, I deem it a very badly chosen spot for a town, and a poor terminus to what is likely to form the main head of communication with the Upper Fraser.

The "Lilloet Trail" starts from the western end of Douglas, and, keeping to the left of the bed of the gully, ascends to a very considerable height (say 500 feet) on the side of the westernmost of the two mountains.

This portion of the trail is extremely bad.

The line of route that has been adopted is by no means the easiest that the nature of the country affords; and, although a considerable ascent is unavoidable, I think that by adopting a line of route which I shall presently describe, it need not rise to much more than half its present elevation. The bridges and corduroys are indifferent, and the road stony throughout, and in many places swampy for the want of small culverts and drains.

Few or no attempts have been made at regular grading, and the present trail rises in several places over spurs in the hill at grades impassable for any animals but mules, and barely so for them, descending as precipitously on the opposite side.

At about 2 miles from Douglas the trail reaches its greatest elevation.

It is then carried along on comparatively level ground for about half a mile, when turning sharp to the right it descends a steep hill to the bed of the ravine.

Crossing the ravine, at a considerable elevation, it is carried along the slope of the opposite mountain for a short distance, and then descends very precipitously by a zigzag path to a strong plateau about 140 feet above the level of the Lilloet River, running along this plateau for about half a mile by the side of the river till it reaches the Four-mile House.

In constructing a waggon-road on this portion of the route I would suggest as follows:—

It being almost impossible, from the nature of the ravine in the immediate vicinity of Douglas, to carry the road along its bed, I would recommend that the existing line be adhered to for the first 900 yards, subject of course to such alterations regarding the precise spot of exit from the town as might be thought fit, and with any slight deviations that might improve the regularity of the grade.

On arriving at the first corduroy (900 yards from Douglas) I would keep to the right along the ravine, which at this point is on the same level as the trail, thereby avoiding an ascent of 200 or 300 feet.

A road might easily be constructed along this ravine for upwards of 2 miles, subject to no great variation in level, and, meeting the old trail at the crossing point, be continued on approximately the same line as far as the top of the steep descent to the plateau.

This hill is unavoidable, and can only be made practicable for loaded waggons by long grading through stony and rocky ground, at a very considerable expense.

On the "Stony Plateau" the trail winds most unnecessarily, and the construction of a straight waggon-road would be a matter of no difficulty whatever.

On leaving the Four-mile House the trail is generally pretty good, though a much better and straighter line of road might be adopted by keeping along the river-bank.

At about 1 mile from the house it leaves the river to the left, and mounts an extremely steep and stony hill at a grade at present almost impracticable for waggons. The ascent continues for about a mile, the descent to the river on the other side of the hill being equally as steep and precipitous as the ascent.

Rejoining the river about 3 miles from the house, and following it for about 300 yards, the trail again bends to the right and ascends a second hill longer than and equally as steep as the former one, descending to the plateau on which the Ten-mile House is situated, at an average angle of about 30° with the horizon.

On this portion of the route the same general defects exist as on the first part, viz.:—

A bad line of trail both in general direction and in detail. Precipitous ascents and descents; indifferent bridges and corduroys; a stony and irregular trail.

I would suggest the following changes in the route, my opinion being formed from an inspection of the places in question:—

The road, after leaving the Four-mile House, should be carried along the river-bank as far as the foot of the first hill, then, instead of bending away from the river, it should follow it round the base of the hill, meeting the present trail where it rejoins the Lilloet.

In this portion of the proposed new route there are two bad rocky places, each about 200 yards in extent, caused by spurs from the hill running down to the river, where a good deal of cutting and blasting would be necessary; but, as the remainder of the route is good for a road, I think this line would be far preferable to that over the mountain, which could not be made practicable for waggons except at an immense expense.

Where the old trail strikes the river again the two routes might coincide for 300 or 400 yards, and then, instead of mounting the second hill, I would adopt the same plan as before and follow the river round.

The road here, after going along an easy level plateau, for about 1 mile, would strike a small tract where a number of successive spurs tolerably level on the top, but with ravines between them, run down to the river in a southerly direction. The difficulty might, however, be overcome by careful grading round the heads of the ravines.

This formation continues for about one-third of a mile, after which the road would emerge upon a broad and beautifully level plateau, with little or no brushwood, and very light timber, much of which has been burnt.

This flat, which I have named in my plan the "Burnt Plateau," is about 1 mile in extent, and a good road along it might, I think, be made in two days by a party of 50 or 60 men. On arriving at the end of the Burnt Plateau I came to the "Glens" of the Lilloet River, and found that it would be absolutely impossible to continue the road along the bank, as the cliffs here run down to the water at a considerable angle with the horizon, and the huge boulders and fragments of rock which lie about, and the danger that would be incurred from future slides in the cliff, preclude the possibility of so doing.

If, however, the road be inclined to the right corner of the Burnt Plateau, it can be carried up at a tolerable grade to another plateau, between the river and the existing line of trail, but on a much lower elevation than the latter.

By following this route the additional advantage of an easy descent to the Ten-mile House plateau would be gained—a point of great importance, as the existing descent is barely practicable.

For the first half-mile, after leaving the Ten-mile House, the trail is very irregular. Several small ravines extend across the line of route to the river, and to diminish the steepness of the ascents and descents the trail is carried round the heads of the ravines. It also winds most unnecessarily on the level ground between them. Should a waggon-road be made here I would recommend that it be cut straight through; there is plenty of timber at hand, and bridges of from 40 to 60 feet span might be built across the ravines, which are only four in number.

After the first half-mile a cutting in the side of the hill (which is, I think, unnecessary, there being a fine flat below) leads to a Cedar Bottom magnificently timbered. I cannot speak positively as to the advisability of carrying the road along the flat mentioned above, as although it was dry when I was there, the water of the Lilloet may have risen since sufficiently high to swamp it.

The Cedar Bottom is a little swampy in two or three places; this, however, is caused not by the Lilloet River, but by small streams running down from the mountains, which frequently overflow and leave their natural beds, owing to obstructions caused by fallen logs, &c. This evil might be remedied by clearing proper channels for the rivulets, but I would suggest that a waggon-road should keep to the right on a higher line of level than the existing trail.

In the Cedar Bottom, which is about three-quarters of a mile long, and of an average breadth of 500 yards, the soil is very rich, but there is so much timbert hat I question its availability for agricultural purposes. At 1½ mile from the Ten-mile House the trail ascends a short steep hill by a zigzag path, and is carried along the side of a small mountain for about half a mile on undulating ground, rising with one more steep ascent to the top of a level, well-timbered and strong plateau on a spur from the mountain.

The hills, I fear, cannot be avoided, as the banks run down steep to the very edge of the river. At 3 miles from the Ten-mile House it runs down the hill, on the opposite side of the spur, and crosses a broad ravine, extending from the river to the mountains, and consequently unavoidable.

Crossing the ravine it rises with a long ascent of 1 mile, varying in steepness to a plateau on the summit of another spur. It is continued for half a mile along this plateau, and then descends a hill dreadfully stony, and so steep that it has been necessary, in portions, to zigzag the path to make it practicable for mules.*

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* On arriving at the foot of this hill, a level stony plateau, one mile long, leads to the Sixteen-mile House, situated about 300 yards back from the river.

A waggon-road, if constructed, should be carried down the side of the first spur at a long and gentle grade, and, having crossed the ravine, should, instead of mounting the hill on the opposite side, be carried round the foot of the hill, by the river, on a much lower plateau than that on which the present route runs.

Circumstances prevented my actually walking over the ground in question, but from what I saw myself, and the information I collected, I think there would be no difficulty in adopting this line for the road.

Immediately on leaving the Sixteen-mile House the River "Acchuchlah" is crossed by a good substantial log-bridge of 45 feet span. A short rise then leads to the top of a fine plateau, about 30 feet above the level of the Lilloet River.

The trail is carried along the plateau at distances from the river, varying from 150 to 400 yards, and there would be no difficulty in constructing a good waggon-road on a much straighter line than the existing trail.

The plateau is 2½ miles long, and of an average breadth of 500 yards.

Timber abounds, chiefly hemlock-pine, and the soil, though stony in some places, is generally good for cultivation.

At the end of the plateau the trail descends a short hill to nearly the level of the river, and runs close to the water's edge for a short distance. I here passed a beautiful little patch of land about 3 acres in extent, abounding with roses and wild fruit, and which, if cleared, might easily be turned to some use. On the opposite side of the Lilloet is a large Indian wigwam and fishing-station, with a little clear land and some potato-patches around it. The trail now, for nearly a quarter of a mile, is cut in the side of a stony hill which runs into the water; but as this hill is subject to frequent slides, which would render it a matter of considerable expense to keep a road thus cut in repair, I would suggest that a sea-wall of stones be built 5 or 6 feet out in the river (which is here very shallow), and a road made on the top.

There are plenty of large stones at hand for this purpose, and I think it would be easier, cheaper, and generally more advantageous to construct a road in this manner than to make a regular cutting in the side of the hill.

After passing this hill I came to a long point which juts out to the left into the river, and at the extremity of which, 200 yards from the trail, are the Great Falls of the Lilloet.

The trail crosses this point on a good general line, and rejoins the river about half a mile further up; it then follows the bank at distances varying from 5 to 100 yards from the river, and about 15 feet above it, on a fine level plateau three-quarters of a mile long and 500 yards wide, with good rich soil, scanty timber, and little or no brushwood.

At the end of this plateau there is a very steep rise (zigzagged) to a ledge on a high clay-slate hill. The trail is carried along the side of this hill for about 200 yards, and then descends precipitously to the foot, whence a quarter of a mile tolerably level, but capable of great improvement, leads to the Hot-spring House.

This hill might be entirely avoided and a good road constructed round its foot, with the aid of a little blasting.

On leaving the "Hot-spring House" the trail runs for one mile along a fine broad flat, about 10 feet above the level of the Lilloet, following the bank for half a mile, and then leaving the river, which takes a bend to the left.

This flat is rather rocky and the soil light and sandy.

Hemlock and cedar abound, and there is very little underwood.

At the end of this mile the trail branches to the right and ascends a gorge between the mountain on the right and a high rocky bluff (named in my plan "Moody's Look-out") on the left. After reaching its highest elevation (about 250 feet), it runs on a comparatively level line along the top of the hill for about a quarter of a mile, and then descends along a steep hill to the river bank. This hill should be avoided, if a waggon-road be made, by deviating to the left at the foot and following round the base. The ground is level and good throughout the greater part of the distance; the difficulties to be overcome being about 100 yards of rocky ground, succeeded by a piece 20 yards long, where the bluff rock runs nearly perpendicularly into the river. The first of these difficulties might be mastered by blasting; the second, by the construction of a sea-wall of the description proposed at the Great Falls. Immediately after getting round the point the road would strike a fine level flat, continued to the point where the present one trails the Lilloet.

For the next mile the construction of a road is simple enough, and it might be made much straighter than the existing trail; a little careful grading would be necessary to descend into a rise from the valley of the River "Schotscheen," which runs too far back to be rounded, and is too broad to be bridged. This river is about 50 feet wide, and is crossed by a good bridge of 60 feet span. Another mile and a half of very good level trail along a plateau by the river-bank, varying in breadth from 150 to 300 yards, leads to a spot marked in my plan as "Camp," close to the foot of a long range of steep hills. The land thus far is all more or less good for cultivation, timber being rather scanty, and little or no brushwood. The soil is rather light and strong, but is, I think, available for agriculture.

From the Camp it is exactly 6 miles by the trail to the house at the southern end of "Tenass Lake," known as the "Twentyeight-mile House," although in reality 34 miles by the trail from Port Douglas.

The mountains throughout the whole 6 miles run down to the water's edge, and the construction of a waggon-road along their sides would be a matter of great difficulty, labour, and expense. There is no plateau whatever along which the road could be carried, and no possibility of avoiding to any extent the steep ascents and descents to which the present trail is subject.

I think it, therefore, not only highly advisable, but positively necessary to cross the Lilloet River in the neighbourhood of the Camp. I examined the river for the purpose of finding the best crossing-place, and think that the most suitable spot is about 300 yards beyond the Camp.

Mr. Nicol, J. P., was kind enough, on a subsequent occasion, to walk down on the opposite side the whole way from the Lake to the Camp, and informs me that there is an excellent Indian trail along the river-bank, easily convertible into a good level waggon-road. The only obstructions are the rivers "Bmockwa," and another with two mouths, called in my plan "Delta B," both of which would have to be crossed by bridges of 50 or 60 feet span. There is, in addition to the above, one rocky place to be passed, but this would be no great impediment to the construction of the road. I have since had an opportunity (while I was descending the Lilloet in a canoe on my return) of examining portions of this part of the proposed new route; and am of opinion that it would be advisable in more ways than one, as, in addition to the advantage of having a level waggon-road, there is a great deal of good agricultural land in the neighbourhood, which would thus be opened up for cultivation.

The trail is at present continued beyond the Twentyeight-mile House, as far as the southern end of Lake Lilloet, a distance of 8 miles.

I propose, however, by a method I shall presently describe, that the south end of Tenass Lake be made the terminus of the first portage, eight miles of land-transport over anything but a good road being thereby avoided.

There is an excellent site for a town at the terminus of the new route I have proposed, and as a small one would be very likely to spring up at the junction of the land and water communications; this would be a farther inducement to its adoption, there being no sort of site for a town at the terminus of the present trail.

Lakes Lilloet and Tenass are connected by a small river about 1½ mile in length, rapid, and towards the mouth very shallow. The difference of level between the lakes I ascertained to be 10 feet 6¾ inches on the 23rd May, 1859.

By constructing a dam of the necessary height across the Lilloet River, where it leaves Tenass Lake, the water in the two lakes might be brought to the same level, and a permanent water-communication thus established. This damming would have the effect of swamping portions of the flat land in the neighbourhood of the Tenass River, but that at the terminus of the proposed route is too high to suffer in like manner.

The dam might easily be constructed of logs, snags, and stones, plenty of which are at hand.

Possibly a permanent water-communication between the two lakes might be effected by deepening the Tenass River at and near its mouth. As, however, I was not on the ground at the lowest stage of the water I cannot speak as to the extent of the portion that would have to be deepened; but, from such information as I could collect, it would only be necessary to form a channel at and near its mouth.

On this part there are, I am told, but six inches of water in winter time, the remainder of the river quite deep enough to admit at all times of the passage of steamers of the small class likely to be established on the lakes.

Thus far I have described such deviations from the existing line of trail as would be required, supposing it absolutely necessary to construct a waggon-road on the left bank of the Lilloet from Douglas as far as the Camp.

I am, however, of opinion that the site of Douglas is extremely badly chosen.

In addition to the defects I have already pointed out I am informed by the Indians that Lake Douglas freezes in the winter, and remains so for some time, while the Harrison never freezes at all.

In the north-west corner of the latter lake there is a high dry site for a town, accessible at all times to boats and steamers, and open to the valley of the Lilloet River. As a protection from the sea, which is sometimes rather rough for boats, a breakwater of snags might easily be constructed at the point shown in the plan, to form a small harbour, behind which they might lie in safety. By making this the terminus of the route a constant steam-communication with Queenborough could be established (the channel once open to the Rapids of the Harrison River), and there would be this additional advantage, viz., that the flat land in the valley of the Lilloet would become opened up for cultivation.

From the cursory view I was enabled to take of the right bank of the river during my rapid descent in a canoe, I am of opinion that from the Harrison Lake to the point opposite the plateau, below the Sixteen-mile House, a road could be far more easily made along that bank than on the present route.

Not having actually walked over every portion of the ground, I cannot speak very decidedly on this point, but adding to the opinion I was enabled to form the fact, that the old Indian trail runs along the right bank the whole way from the Harrison Lake to the Tenass Lake, and the well-known circumstances that the Indian trails throughout North America invariably follow the best line of travel through a wild country, I conclude that at least a great portion of the road should be carried along that bank.

I have accordingly come to the following opinions on this point, viz.:—

"That the starting point of the route should be changed from Douglas to the north-west corner of the Harrison Lake. That the waggon-road be carried along the right bank of the Lilloet River, as far, if possible, as the point opposite the lower end of the plateau, below the Sixteen-mile House.*

"That the River be bridged here, and the road carried along the left bank as far as 'The Camp,' following the general direction of the present trail, subject of course to the deviation already proposed.

"That the Lilloet be recrossed at the point marked on the plan, and the road then constructed on the right bank of the river, and terminated at the southern end of the 'Tenass Lake.'"

I may here mention that Sapper Breakenridge, who has since made a reconnaissance of the right bank from the Harrison Lake, as far as the point opposite the Four-mile House, reported to me, after going over both routes, that the one on the right bank, although rather swampy in some places, was far preferable to the existing one, and I think a still better might be found by keeping further back from the river.

The distance by water from the south end of the Tenass Lake to the north-west end of Lake Lilloet is about 21 miles, the shores of both lakes being equally as precipitous as those of the Harrison.

The town of "Pemberton," which, when I was there, consisted of five or six houses, stands on a wretched rocky site in the northernmost corner of Lake Lilloet. At high stages of the water the town is accessible to boats, but in the winter a long flat bar of sand prevents their coming within 500 yards of it. From this place the second portage commences, known now as the "Birkenhead Portage;" nor is there any better starting point in the vicinity.

The valley of the "Upper Lilloet," which river runs into the lake at its western extremity, takes a westerly direction from the head of the lake. The river, about 5 miles from its mouth, divides into two, a large delta being left between the mouths, which, in summer time, is again divided in two by a creek. On this delta, and particularly towards its western point, a few farming-men have cultivated land, and there is also a large Indian village, surrounded by potato-patches, &c. In the centre of each island is a small lake, the ground, for a considerable distance from their edges, is swampy; but the banks are high and dry all the way round, contain good soil, and are covered with magnificent grass. The trail, on leaving Port Pemberton, is carried over ground very similar to that at the back of Douglas, but in this case the ravine has been adhered to, and the hills are far less precipitous than those near Douglas. I was unavoidably compelled, both on my way up and on my return, to travel very rapidly over this portage, and consequently unable to make detailed field-notes, or survey the route as accurately as I should have wished. The trail which, for the whole 24 miles, runs through a natural pass in the Cascade Range, is, on the whole, far better than that on the Douglas Portage, and, with the exception of blasting round two or three rocky hills, no great deviation from the present route would be necessary, *if Port Pemberton be made the point of departure.*

As, however, it might be necessary, in the event of this route being made the main channel of communication with the upper country, to establish a town of some size at the junction of the land or water communications, the site of Port Pemberton should, in this case, be abandoned.

There is a good site for a town, near the mouth of the "Mosquito River," which empties itself into the Upper Lilloet, opposite the Indian village, on the westernmost of the Lilloet Islands. If, therefore, the bar at the mouth of the southern or main branch of the river were deepened sufficiently to admit at all times of the passage of steamers, I would suggest that the town be established at the mouth of the Mosquito River, and the road run along the valley, striking the old trail at its junction with that river. The large valley of the Upper Lilloet would thus be opened up and inducement given to farmers to clear and cultivate the land in the vicinity of this town, which might otherwise be neglected in consequence of its remoteness from any main route of communication.

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* If impossible to carry it as far as the point proposed, there are several good crossing-places along the river (one half a mile below the Four-mile House), but the Port Douglas Hill should by all means be avoided.

About 17 miles from Pemberton the trail runs along the shore of a small lake, one mile long and half a mile broad.

This lake, which is situated on the summit of the Pass, is called "Summit Lake," and from either end there is a descent to the Fraser, that from the north by Anderson River, through Lakes Anderson and Seaton, and the River Imkumtch, and that from the south end by the Mosquito River, through the Lilloet and Harrison Lakes.

After passing the Summit Lake I crossed a tract of valley land 2 or 3 miles in extent, containing little timber, and good rich loamy soil, irrigable, if necessary, from Anderson River.

In the vicinity of Anderson, and for some little distance down the eastern shore of the lake, there is plenty of good grazing-land for sheep and cattle on the sides of the mountains; and I am informed that, owing to the absence of briars, &c., this part of the country is very well adapted for raising good wool.

The town of Anderson is situated, as shown in the plan, on the south-western end of Lake Anderson.

The site, as regards its suitability both for a town and a point of departure for steamers, is extremely good.

The bank is high and dry (about 15 feet above high-water mark), timber plenty and fine, but not too much of it, the soil good, and the land for one mile in rear flat, and easily irrigable. A good jetty has been built by the men who have settled there and own the boats that convey passengers across the lake, and, as the water is deep close in-shore, the port is accessible at all times to steamers.

From Anderson to the spot marked in my plan as "Wapping," which consists of one log-house for travellers to sleep in, is 14 miles by water.

The short portage connecting lakes Anderson and Seaton (1½ mile in length) commences here, and terminates at the spot marked "Flushing."

A Mr. Dozier, an American, who has established a waggon for conveying provisions across this portage, constructed a waggon-road last year, connecting the two lakes, entirely at his own expense.

The road is a very fair one, and as he has likewise constructed a neat and substantial bridge across the Seaton River of 60 feet span, I would suggest that, in the event of this becoming a permanent route, the by no means trivial service he has done to the colony be recognised.

It will be seen, on looking at the plan, that it is necessary to cross the river, as there is no starting-place for boats or room for houses, on the right bank, at the Lake Seaton end.

The land on this portage is stony, the timber is scanty, but the brushwood thick, and there is a fine patch of rich land to the north-west of Flushing. Both that place and Wapping are admirably adapted for the points of departure of steamers and as sites for small towns.

On the 30th of May I found the difference of level between the two lakes to be 59½ feet, a difference which would combine with the softness of the soil to render the construction of a canal of communication a matter of considerable difficulty. Several locks would, moreover, be necessary, and I question whether it would not be better to run the goods across the Isthmus on a tramway, which might easily be made from one jetty to the other.

At the eastern end of Lake Seaton, 14 miles by water from Flushing, is situated the small town of "Seaton." The houses are built on the beach, which is not more than 30 or 40 yards broad in the widest places; and immediately in their rear a steep bank, about 100 feet high, leads to a large diamond-shaped plateau or bench, on which there is good grazing-land for cattle (bunch-grass) and very little timber. The site of Seaton possesses the same advantages, as a point of arrival and departure for steamers, as the other places on these lakes, but there is no room to establish a town except on the top of the bench, which would, I think, be too far above the water.

The trail winds round the point of the plateau at a steep rise, and, on attaining a height of about 50 feet, is carried along the side of the hill at an undulating level for about half a mile.

Here it emerges on a level and very stony plateau about one-third of a mile broad, bounded on the north by the Imkumtch, and on the south by the Kayosch River. These rivers join in one, about three-quarters of a mile further on, and the trail is carried along the plateau to within 100 yards of this point.

It then crosses the Inkmutch on a rough log-bridge, built last May by the packers, between Seaton and Kayosch. A large rock in the bed of the river forms a natural pier for the support of the centre of the bridge.

For the next three-quarters of a mile the trail runs along the side of a stony mountain at a considerable elevation, on a small ledge cut for the purpose. This portion of the route is very dangerous, and, owing to the frequency of large slides in the mountain side, impassable for a waggon-road.

Passing round the point of this mountain the trail emerges on the level grassy bench-land, peculiar to this district of the Fraser, and, running along this land for about 1½ mile at a very slight variation in level, reaches the small town of Kayosch, situated on the western bank of that river.

The benches in the vicinity of this portion of the Fraser, which are covered with bunch-grass, and in some places scantily timbered, would form excellent grazing-lands for cattle, but the soil is, I think, too dry to be cultivated to any extent. There are two or three small rivulets running through the bench on which the town of Kayosch is situated, which afford a supply sufficient for the wants of the present inhabitants, and for irrigating a small patch of about 10 acres on a lower bench in front of the town, now under cultivation, and I dare say more might be obtained by digging wells; but water to any great extent is not to be had on the upper benches, either on the Kayosch or on the Fort Behrens side of the Fraser.

The majority of the benches, although beautifully clear and level, are, I think, at too great an elevation above the Fraser River to be well adapted as sites for towns; that, for instance, on which Kayosch stands being about 150 to 200 feet above the river.

They vary in length from ½ a mile to 1½ mile, and in breadth from 200 to 1000 yards; the slopes connecting one bench with that above it being generally at an angle of about 45°.

I was unable to procure any means of crossing to the southern bank of the Kayosch, but I was able to see sufficient from the opposite side to convince me that on that bank, at its junction with the Fraser, is the best site for a town in the neighbourhood.

June 1st.—At this part a considerable flat, 300 or 400 yards wide, and about 20 feet above the level of the Fraser, extends some distance down the shore of the Fraser and up the Kayosch.

Behind this flat, and about 100 feet above it, is another extensive plateau to which a town might be extended, while any amount of water-power might be obtained in that portion of the town or the lower flat, by fluming from the Kayosch.

I suggest, therefore, that instead of crossing the Imkumtch at the forks of that river and the Kayosch, the latter river be bridged at or near the same point, whence an almost natural waggon-road extends to the proposed town site on the right bank, a distance of 125 miles.

The trail from Kayosch to the bank above French Bar requires no alteration whatever, extending along the flat benches at occasional slight changes in level for about 2¼ miles. It then runs down a frightfully steep bank to the "Bar," and as the remainder of the route both from this point to the mouth of Bridge River, and thence on to Morman Bar, is so bad as to render the construction of a waggon-road barely possible, I will proceed at once to report on the best route to Fountain that, in my opinion, the nature of the country will permit.

The Kayosch should, I think, be bridged from the south as near its mouth as practicable, the waggon-road carried round near the Fraser at the lowest possible elevation, as far as French Bar.

Crossing the Fraser at a point on the bar which will be found practicable where the river is only about 75 yards wide; * it should ascend the steep bank on the opposite side at a gentle grade, whence, with the exception of one place subject to slides, the road to Fountain is generally good.

Fountain is situated on the left bank of the Fraser, on a large bench upwards of a mile in length, about 500 yards wide, and 700 or 800 feet above the level of the Fraser, to which the bank makes a direct steep descent.

1½ miles beyond the fountain a trail branches off to the southward and runs at the back of the range of mountains which skirts the left bank of the Fraser as far as the Forks of the Thompson River. This trail is, I believe, the best and shortest route from the Forks to the upper country; the country between Kayosch and the Thompson affords every facility for the construction of a good waggon-road on the right bank, though the existing one on the left bank is, I understand, very bad for a large portion of the distance.

Water to a considerable amount is procurable at Fountain from a lake 2½ miles back in the mountain; but, although a town on the flat might be of some importance in connection with the branch roads to the Forks, Pavillon, and Kayosch, the site is at too great an elevation above the Fraser to admit of the establishment of a town in connection with any traffic that may at a future period take place on that river.

The land around and in the valley leading to the Forks is of the same nature as that around Kayosch, viz. excellent for grazing, but too dry in summer, unless well irrigated, to admit of agriculture to any important extent.

In the Bonaparte Valley, which extends from Pavillon to Fort Thompson, there are, I understand, from 40 to 50 square miles of rich land fit for cultivation. In this valley, too, there is a great deal of black marble, and limestones abound at Pavillon and its neighbourhood. With regard to Fountain I should add that a town there might, at a future period, be of importance in connection with a road from Canada through the Bonaparte Valley to Kayosch.

With reference to other interesting features on the route I would beg to call your attention to the following:—

At the south end of Harrison Lake, about three-quarters of a mile to the south-east of the point where the river and lake join, a hot spring, called "St. Alice's Well," is situated.

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* There is a rock about one-third of the way across, covered at high-water, but dry in the fall. On this rock a pier might easily be made.

The water, whose temperature on the 20th May, was 130° Fah., bubbles out of a small mass of conglomerate rock 6 inches above the then level of the lake.

It is highly sulphurous, but, owing to my having been unable to procure a perfectly clean bottle and cork, the specimen I sent down to Victoria proves, I regret, to be unfit for further analysis.

Another hot spring, somewhat similar to St. Alice's, and of about the same temperature, though not so highly sulphurous, is situated about 60 yards north-east of the Hot-spring House, $23\frac{9}{10}$ miles by the trail from Douglas. By a subsequent cursory examination, this water was found to contain chloride of sodium and sulphate of soda; but, owing to the impossibility of my procuring a perfect specimen, an accurate analysis could not be made.

Every sensible miner to whom I spoke on the subject, clearly admitted the existence of gold all along the banks of the Upper Fraser in considerable quantities; in quantities, too, that—were it not for the exorbitantly high prices of provisions and the want of good fresh meat and vegetables—would attract and retain thousands of miners who were then leaving the country. The great cry is for a waggon-road and cheap and good provisions, and these, once obtained, there will be no farther doubt as to the stay of the miners in the country.

Dry diggings have yet to be found, and, there is no doubt, will be found as soon as men have heart and strength to prospect the country in every direction; but as long as bacon and beans are the sole articles of diet, few, if any, will be found with the heart or strength to do more than support themselves by mining for a few hours each day, much less to travel over such a wild country and such bad trails, as they must do, in order to explore the districts in the vicinity of the Upper Fraser.

From the cursory view I was enabled to take of the general geological character of the country, Trappean rocks appear to prevail, consisting principally of greenstone, dense clay-slate (here and there presenting a laminated structure), and compact hornblende. The exposed surfaces of the rocks are very generally covered with the white deposit due to the decomposition of felspar, and are occasionally stained red with iron, forming an agreeable contrast in the landscape. Quartz veins permeate the clay-slate in many places, of an average thickness of from 1 to 12 inches; the formation, in fact, would suggest the high probability of metalliferous deposits.

The mountains rise bold, rugged, and abrupt, with occasional benches on their sides, on which are found quantities or worn rounded boulders, principally of coarse-grained granite, occasionally porphyritic. The granite contains golden-coloured and black mica in large quantities. The crystals of felspar in the porphyritic granite are very numerous, but small. The soil appears in many places to have been formed by the decomposition of granite—it being light and sandy, and containing much mica.

Below the soil is very generally found a white compact mass, very hard, and approaching to a conglomerate, containing pebbles of every description in a matrix of decomposed clay-slate. Lime seems wanting even in the conglomerate, and I saw no traces of limestone or sandstone all along the route, though I understand there is plenty of the former at Pavillon.

TABLE showing the Astronomical Positions of important points on the route, as computed by LIEUT. H. SPENCER PALMER, R.E.

Station at	Latitude North.			Longitude in Time East of Queenborough.		Absolute Longitude West.		
	°	′	″	′	″	°	′	″
Queenborough	49	12	58		..	122	53	15
Mouth of Harrison River	0	14	25	3	25·596	0	1	51
South end of Harrison Lake	0	19	0	4	00·688	121	53	4
Douglas	0	45	35	2	46·808	122	11	33
Ten-Mile House	0	52	41	2	12.972	0	20	3
South end of Tenass Lake	50	3	0	1	10·445	0	35	38
,, Lilloet Lake	0	7	52	1	9·546	0	35	52
Pemberton	0	17	32	0	40·240	0	43	11
Anderson	0	32	13	1	11·872	0	35	17
Flushing	0	42	25	2	2·356	0	26	39
Seaton	0	40	18	3	10·146	0	5	43
Kayosch	0	41	51	3	22·753	0	2	33
Mouth of Bridge River	0	45	33	3	17·753	0	3	48
Fountain	0	44	44	3	27·508	0	1	22

TABLE OF DISTANCES.

From	To	Distances by Land (trail) in Miles.	Distance by Water in Miles.
Queenborough Camp	Fort Langley	..	17·000
Ditto	Mouth of Harrison River	..	47·700
Ditto	South end of Harrison Lake	..	57·700
Ditto	Douglas	..	92·700
Douglas	Four-Mile House	4·047	..
Ditto	Ten-Mile House	11·852	..
Ditto	Sixteen-Mile House	18·911	..
Ditto	Hot-Spring House	23·881	..
Ditto	The Camp	27·999	..
Ditto	South end of Tenass Lake	34·000	..
South end of Tenass Lake	Ditto Lilloet Lake	..	6·650
Ditto	Pemberton	..	21·130
Pemberton	Halfway House (2nd portage)	15·000	..
Ditto	Anderson	29·000	..
Anderson	Wapping	..	14·000
Wapping	Flushing	1·45	..
Flushing	Seaton	..	14·000
Seaton	Kayoosch	3·700	..
Kayosch	Mouth of Bridge River	4·200	..
Ditto	Point opposite Fountain	6·500	..
Total from Queenborough	To Fountain	74·65	141·83

Entire distance, Queenborough to Fountain, 216·48 miles.

XVIII..—*Journey into the Interior of British Columbia.*
By MATTHEW B. BEGBIE, Esq., Justice.

Communicated by the DUKE OF NEWCASTLE, F.R.G.S., H. M. Secretary for the Colonies.

Read, December 12, 1859.

Justice BEGBIE to Governor DOUGLAS.

SIR, Victoria, April 25, 1859.

I have to report to you my return from the circuit which I have just held in British Columbia, as far as the Fountains, to which point I followed nearly the course of the Fraser River. Thence I returned by the Lilloet route and the Harrison River to Langley.

I have already had the honour to report, for your information, the proceedings at Langley, at Fort Hope, and at Fort Yale.

Accompanied by Mr. Nicol, the High Sheriff of British Columbia, and by Mr. Bushby, the Registrar and Assize Clerk, I left Fort Yale on foot on the 28th ult., with an Indian servant, and seven other Indians carrying our tent, blankets, and provisions, for Lytton, on the forks of Thompson River.

Acting on the suggestions of the Chief Commissioner of Land and Works, Mr. Nicol and I made a reconnaissance of the entire road travelled over; the result of which I hope shortly to be able to plot out and place in your Excellency's hands.

There being a considerable quantity of snow on the ground we could not follow the mule-trail, but kept on the right bank of Fraser River until two or three miles below Quayome or Boston Bar. There are one or two restaurants on the road; one at Spuzzum, one at the top of the hill immediately above Yale, one at Quayome, and another about 18 miles from Lytton; but we found it would have been an extreme inconvenience to have been without a tent and without a sufficient supply of provisions for the entire route.

It would even be extremely economical to provide at Fort Yale the whole of the necessary stores to carry round the whole way across the portage between Lake Anderson and Lake Lilloet. Provisions we found to be at unusual prices, flour being 1*s.* 8*d.* to 2*s.* per lb., until we arrived at Lake Lilloet.

The trail between Fort Yale and Quayome, by which we advanced, is by this time, I should think, utterly impassable for any animal, except a man, a goat, or a dog. It might doubtless be very much improved. In many places a very painful and dangerous ascent and descent of 20 minutes, in the whole course of which the traveller depends almost as much on his hands as on his feet, brings the path to within a few yards of the projecting precipice, through which a few pounds of powder would have made an easy way. But it suggested itself as extremely doubtful whether it would be worth while at present to engage in any improvements on this part of the line until the far easier Lilloet route be rendered practicable, as it might for a considerable extent very readily be, for carts.

Between Fort Yale and Quayome there did not appear to be any land, except a few spots here and there of a very few acres in extent, capable of cultivation. But the soil was rich and well fitted for roots, and at Spuzzum accordingly the Indians had considerable potato-patches; but nothing like an English farm could be established.

Above Quayome the trail to Lytton presents no serious obstacles to prevent a cart-road being made except in two places. The country above Quayome changes its aspect very much. There are almost immediately found benches of fertile land comparatively free from underwood, but tolerably thickly wooded with large trees; not more than convenient, however, for farming purposes, which in fences, fuel, and log-huts, rapidly consume timber. About half a day's journey below Lytton a considerable enclosure of about 200 acres is made by felled trees; a Frenchman, whose name I did not learn, intending to make a farm there. Very many such might be made.

There are considerable beds of slate opening on the Fraser River, a couple of miles above Quayome, and these make their appearance two or three times before arriving at Lytton. At the place where I observed the first slate-bed there is also apparently a spring highly charged with carbonate of lime; but it does not appear to be abundant, and, as far as I could trace, appeared to flow but from a very little distance above the bank. Leaves and branches of trees were thickly encrusted with a chalky or marly deposit, but were not hardened or petrified. There were also on the beaches of the river often seen limestone boulders, but I did not observe any *in situ.*

There was a great change in the climate after passing the Quayome River, it was much drier, the springs less frequent, the soil sandier, the undergrowth much less dense; and the spruce, hemlock, Douglas, and cedars, which we had carried all the way from the sea, all disappeared by degrees, and were replaced by a pine, very similar to the Scotch fir, but with longer spines. The first place where we noticed this tree we named Scotch-fir Point.

Lytton does not appear a well-chosen site for any town; it is on the higher of two benches, parallel to each other and to the River Fraser, the lower one being the narrowest, both terminating in a very steep descent, as steep as a man can descend without using his hands, to the River Thompson. I should think 300 or 400 feet deep. The upper plateau on which Lytton is placed descends by a similar bank of about 100 feet high to the narrow bench, which again descends by a similar precipitous bank upon the Fraser River. At the south end of the town there is a very deep gully, which runs a considerable way into the mountains on the east of the river. Up this gully a road might be brought from the Fraser; it is, I think, the easiest way, but it would probable be from 1 mile to 1½ mile in length, for carts. There is only one little rill of water to supply the town; it is adequate for the few houses now there, but quite insufficient for a town of any size. Mr. Nicol and I ascended its course, which is an artificial ditch wrought by miners, for about 1½ mile, in order to see whether it was larger at its source, or diminished by percolation, as we had been told that at that distance it was 15 times its bulk below. We found that this was an entire misrepresentation; we fancied, indeed, but sometimes entirely changed our opinion, that the stream above contained somewhat more water. We had no means of guaging the rill. It is probably the fact that some water is lost, which by a careful system of waterproof piping might be available for the supply of the town. But at best it would be no more than a tolerably rapid flow in a channel a foot wide and 4 or 5 inches deep, not much more than in a sluice-head on a single mining-claim.

Waterworks might easily be constructed to any extent upon the Thompson River, which runs swiftly, and in a very clear and abundant stream. From the nature of the soil I do not think wells would answer. I recollect that when I was on the spot the soil appeared to be more dried up than it now appears. I believe that the appearance was caused, not by aridity, but by severe cold. It is, however, very dry. There is on the right bank of the Fraser, above the Forks about three-quarters of a mile, a much more eligible site for a town—a plateau communicating with the river at a convenient height, and again with many other plateaus of various sizes and of various heights above it, with abundant water-supply in a large brook which runs strongly behind it, and abundance of wood behind, which at Lytton appears to have been rather scanty at the first, and now is all swept off for log-houses and fires. The only objection to this other site is, that it is a short distance above the mouth of Thompson River, so that travellers up that river would have to go three-quarters of a mile out of their way to visit the town.

The shores of Fraser River were thinly dotted by miners on both sides. The great mass of miners were forcing their way up with provisions in boats. A very few were going up on foot; nearly the same number were returning on foot, alleging the high prices of provisions in the upper country. They were high enough at Lytton, where we were charged 3 dollars a head for each meal, consisting mainly of bacon and hearth-made bread.

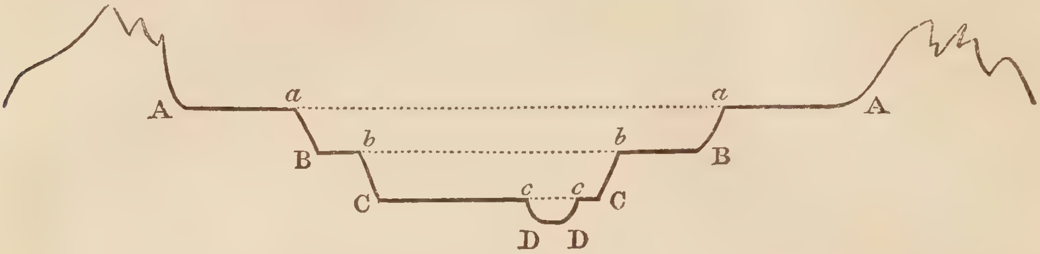
It was a great disappointment to us that Captain Travaillot absented himself from Lytton during the whole of our three days' sojourn there. There were many complaints as to the manner in which decisions had been made by him, but in my opinion they did not involve any amount of corruption; but the errors (if any) were such as might reasonably arise from inexperience, and the absence of books or advice. It was a great inconvenience to have no access to any books or plans of the town, which were all locked up. There were a few contested lots, but not many; and I should think the difficulties are not hard to settle.

There was a considerable degree of anxiety manifested everywhere for the possession of land; in some instances the mere right to take the crop was not satisfactory, in other it was acquiesced in.

At Lytton considerable excitement was manifested with reference to some ditch regulations, which were then recently promulgated, and which I had not seen until I found them placarded on Captain Travaillot's office door. The miners generally alleged that the quantity of water allowed to a ditch was too small; that in consequence of the lightness of the soil the water in a ditch is lost by percolation; and although calculated by the Government to be sufficient for two sluice-heads, and charged as for two claims, is in fact scarcely enough for one when it reaches the spot worked; and that lumber is so dear and scarce (375 dollars per thousand, in fact not to be had in any quantity) that fluming is impossible. The gold they allege to be very uncertain in its deposit, and that small claims may sometimes be worked out in a day, while others may prove extremely valuable. They allege further, that it is very convenient to have, or to be allowed to have, ditches owned by parties entirely unconnected with the claims, who may sell the water in those ditches without limitation as to price or quantity. They did not seem to object to the limitation to sell only to licensed miners.

As my own view on the theory which I formed of the geological formation of the Valley of the Fraser in this direction is, that the whole valley and benches together are auriferous, and would pay under a large system of water-working, I did not pay great regard to their complaints as to the uncertain nature of the deposits in the claims, which, indeed, I had from practical experience an illustration of. Mr. Nicol and myself washed about 20 pans, and obtained 75 cents' worth of gold. The next 5 pans taken from the same spot yielded 2 dollars, all in rusty scale-gold.

The singular feature of level benches of various breadth, consisting of vast thicknesses of alluvial deposits, loam more or less sandy, and waterworn boulders, gravel, and pebbles, the benches being of various heights one above the other, parallel in their general direction with the course of the river and the mountains between which it runs, and generally matched on either side of the river, forcibly recalls the "parallel mountain roads," as they are called, among the Grampians in Scotland; which are now generally accounted for by geologists on the theory of the whole space between the boundary hill ranges having been originally a vast lake, and of successive elevations of the earth's surface, a theory to which the neighbourhood of active volcanic ranges appears to me to give much plausibility.



According to this theory,—to which Mr. Nicol and I gave attention in considering the country, and which seemed to explain all the phenomena, and to acquire additional plausibility from the different appearances which we remarked as we proceeded, but a detail of which would be out of place,—A A, along the dotted line, formed at one time the bed of the lake. The earth's surface was locally raised, so that B B stood as high above the level of the sea as A A originally stood. The sudden rush of water swept away by denudation all the portion of the original deposit included between B B, *a a*. A similar upheaval again occurred, which caused the denudation of the space *b*, C C, *b*. A third denudation, *c*, D D, *c*, left the water to flow, no longer in a lake, but contracted to the limits of a river, in its present bed D D. It is probable that when so large a lake existed above the Forks, it would arrest, as in a trough,—exactly as is done by the miners' sluicing-trough at the present day, only on a gigantic scale,—all the finer particles of gold brought down by the river from the mountain in the distant upper country. It is probable, therefore, that at the distant geological epoch, when a long lake or a long series of lakes extended for many miles above the Big Cañon—as far as I visited the country, from about Quayome to some miles above the Fountains, a distance of 80 or 90 miles—the banks and bed of the river below these lakes was not auriferous, at all events not so highly auriferous as at the present day. But on the theory that the sediment at the bottom of these lakes was all more or less auriferous, and that vast quantities of the sediment in successive portions were, upon each successive upheaval of the surface, hurried down by the mighty rush of waters through the Cañons, and into and over the smoother country below them, commencing at Fort Yale, we have again an exact repetition of the process witnessed every day in every rocker throughout the country. An enormous quantity of "pay dirt" was at each upheaval cast into the vast sluice of the Fraser.

The scale-gold would be all intercepted in the rough beds of the river as it successively grooved out for itself another and another channel through the ancient bed of the original lake, or at all events in the holes and eddies in the rocks in its passage through the Cañons.

This is the sieve of the rocker, where the scale-gold is—unless the rocker be unevenly worked—always retained. The finer particles, the flour or dust gold as it is called, would be carried over the sieve by the rush of water on to the blanket, and would principally be retained in the first part of the blanket, nearest the sieve. Hill Bar, Prince Albert Flat, and the district generally from Fort Yale to Fort Hope, accordingly, are all impregnated with flour-gold, more or less, and generally more so than the country below, or far below Fort Hope. But the whole of the blanket in a rocker is worth searching, and is accordingly searched by the miner periodically; and we find "flour-gold" accordingly down to Langley. It is a further corroboration of this theory, that while flour-gold does not amount to above 15 per cent. of the gold found at the Forks—85 per cent., or upwards, of the gold found there being scale-gold—I have never heard of a single scale being found at or below Fort Yale.

If this view be correct, there are therefore in the benches at and around Lytton dry diggings on the most enormous scale. The district which I visited from Quayome to the Fountains is about 70 miles long, and from 1 mile to 5 or 6 miles wide; and in many places 100, 200, and 400, in some even 1000 feet thick. Every spadeful I believe to be auriferous. The bed of the river pays the whole distance from 5 to 100 dollars per hand per day; 12 dollars is not unusual. It is, however, probable that the banks high above the river could not be worked advantageously without the application of copious washing. But the streams from the mountains on each side are very rare compared with what is found below the Quayome, and water privileges are correspondingly valuable. There is of course a never-failing supply in the Fraser; but many of the benches are 600, and even, I should guess, 1000 feet above its present bed (by estimation); and considerable hydraulic works would have to be undertaken, and by very different ditches and on different principles from those now in force. It would be a question of engineering on a large scale.

The character of the country at Lytton is preserved all the way to the Fountains; and for as far as the eye can reach above the Fountains some 4 or 5 miles the whole of the country is tolerably well adapted for stock. It appears rather too dry a climate for arable cultivation. There is abundance of bunch-grass. Water is not everywhere met with on the benches above the river, but the Fraser is always there.

The soil is sometimes covered with shingles, at other times too sandy; but in general a light loam. The pine-trees already described appear, by their resinous spiky leaves, which strew the ground in great abundance, to make it much drier than it otherwise would be. These trees would soon be removed for firing, enclosures, and houses, and the country improve accordingly. There is no underwood.

We procured horses from the Indian chief Spindlem for carrying our blankets, &c., over this portion of the route. In consequence of the dangerous nature of one part of the trail, called the "Slide," a few miles above Foster Bar, 18 miles from Fountains, the mule-trail quits the Fraser at Foster Bar and ascends a small stream to an elevated plateau, descending by a beautiful valley to the plateau above the Fountains.

On the top of the pass we found (7th April) three lakes all frozen. Mr. Nicol and I got upon one, and found the ice about 4½ inches thick. This plateau, however, wherever the snow was cleared away, showed an uncommonly rich vegetation in grass, equal almost to that on the Pitt Meadows; a fine rich black mould, and uncommon advantages (save for its great cold) for dairy farming. It appeared as if an unbounded number of cattle might be maintained in this valley, or rather double valley and pass, the lower parts of which seemed well adapted for the plough.

The pass, which we estimated at about 16½ miles long from Foster Bar, opens on the two vast level plains, on the lower of which Fountains is situated.

These, each of them, contain apparently 1000 to 1500 acres, with scarcely a tree or deviation from level; covered only with bunch-grass, and terminated on all sides, except towards the mountains, by precipitous descents towards the river, each of which we conjectured to be not less than 500 feet; so that the upper plateau might be 1000 feet above the level of the river.

From hence Fraser River is seen coming down in a succession of beds in a narrow bed edged with high narrow benches from the north-west, closely confined by lofty mountains from 4000 to 7000 feet high.

On the southern part of the lower plateau are a few houses, stores, and tents. This is the Fountains. We had fresh meat here, the first since leaving

Fort Yale. We found that Captain Travaillot, who had promised to meet us here, had left on the previous day, leaving word that he would wait for us at the point where the Lilloet trail falls on the Fraser River. There were notifications of the new ditch orders, and that one Mr. Kelley, who kept stores there, was appointed to receive payment of mining-licenses and other Government moneys. The price of provisions was higher, if anything, here than at Lytton. The place seemed very dull. There were a few miners passing up and down. Some settlers seemed disposed to build; but the majority of those persons I saw wore an idle look. The bulk of the miners pass along the river far below, and, being supplied with their own provisions, they do not climb the high steep bank, at the top of which there is nothing to reward their pains; for the stores are of the commonest sort, and there are no drinkable liquors, nor, so far as I could see, any facilities for gambling. The spot is probably the best in the immediate neighbourhood for a town.

We left the Fountains the same afternoon for the place called Lilloet in this neighbourhood, *i.e.* the spot where the Lilloet route falls on the Fraser, and which I shall designate by the name Cayoosh. The river which drains the lakes Anderson and Seton, and falls into the Fraser at this point, is called "Nkoomptch Falls." But 2 miles above the Fraser it receives a considerable accession in the Cayoosh brook, which being more easily pronounced is preferable, and is used in the locality among the whites to designate the Nkoomtch proper. The trail, which is in general on a bench, with interruptions in some places, but which might easily be made into a good waggon-road, passes in front of the mouth of the Seclatqua or Bridge River at 2 miles; and at 4 miles below Fountains crosses by the ferry recently granted by Captain Travaillot to Aimable Bonnet and Calmel. The tolls are, perhaps, not too high for the present rates of wages and provisions. The right is only granted for a year, and at the end of that time, or of a second year, they might probably be revised. The ferrymen were about to establish immediately a boat for foot-passengers opposite Cayoosh, as it was found that many people crossed there. I saw a good deal of them during several days; they seem civil and well-conducted men.

Cayoosh is decidedly the most favourable position for a town that I have seen above Fort Hope, apart from its important position at the gorge of the Lilloet route. It is on the right bank of the river Fraser, at some distance from the river, and at a considerable height above it. The level benches on each side of the river, and which are all perfectly free from underwood, extend from above Fountains to a considerable distance below Cayoosh, on the left bank, and terminate a little below the junction on the right bank of the Fraser, a distance of at least 11 or 12 miles in length, and of a breadth in the whole varying from 1 to 4 miles. There are probably some 20 or 30 square miles of land ready for immediate occupation; the whole of which is fit for some description of farming, and about half of it admirably adapted for any description, either sheep, cattle, or the plough. In some places it is too sandy, in others too strong, for the plough; but in these places there is an abundance of bunch-grass, well adapted for stock of any sort. The soil is uniformly a red loam, in some places of exceeding richness and friability, degenerating in some parts into sand, in others covered thickly with large water-worn pebbles.

I have already pointed out to your Excellency a sketch of the particular plateau on which we, Mr. Nicol, and myself, thought a town could be with most advantage placed. It is on the right bank of the Fraser, immediately above its confluence with the Cayoosh.

Two chiefs, said to be of extensive authority, paid me a visit while at Cayoosh. They complained of the conduct of the citizens of the United States in preventing them from mining, in destroying and carrying away their root-crops without compensation, and in laying wholly upon the Indians many depredations on cattle and horses which these Indians informed me were in part, at least, committed by "Boston men." On the other hand, many cases of cattle-stealing were alleged by the whites of all nations against the Indians; and stealing, indeed, of anything which could by possibility be eaten. For even the cattle which Indians stole they did not attempt to sell or make use of otherwise than as food; and it was admitted on all hands that many hundreds of Indians had died of absolute starvation during the winter. The Indians said that the salmon had failed them now for three years together.

The whites alleged, what is obvious to everybody, that the Indians are extremely averse to work, except under the pressure of immediate hunger; and that they are so improvident as rarely to look beyond the wants of the day, and never to consider the wants of a winter beforehand. If I may venture an opinion, I should think that this is much more true of the savages who have never been brought into contact with civilization than with those who have had even a little acquaintance with the whites. We found almost everywhere Indians willing to labour hard for wages, and bargaining acutely for wages; and perfectly acquainted with gold-dust, and the minute weights for measuring one and two dollars with. These circumstances are inconsistent with an utter heedlessness for next day's provisions, for in all cases we had to find these Indians in provisions as well as wages. And the amount of wages for the most abject drudgery to which human labour can be put, viz. carrying burthens, being 8*s.* per day and provisions, pretty uniformly wherever we went, shows of itself a very high average rate of profit as the wages of labour in British Columbia. If this is the average remuneration of the most unskilled labour, what ought skilled labour, supported by capital, to earn?

It was the uniform practice of storekeepers to entrust these Indians with their goods, generally 100 lbs. of flour, beans, or pork, and provisions for their own subsistence. Thefts were said to be unknown, and great care taken of their burdens. And these individuals who work I found extremely fleshy and hearty. My impression of the Indian population is, that they have far more natural intelligence, honesty, and good manners, than the lowest class—say the agricultural and mining population—of any European country I ever visited, England included.

At Cayoosh I tried to cause a grand jury to be summoned to present all these matters formally to me; but there were not twelve British subjects there.

The road from Cayoosh to Lake Seton, 16 miles, according to the point of departure, is in one part not practicable for mules. They ford the stream accordingly at present.

The muleteers propose to bridge the stream before the summer floods set in. They have already bridged it in one place, between Lake Seton and Lake Anderson, at their own expense of 180 dollars.

With one exception, there is no bridge on the Lilloet trail comparable to this; and with that one exception (worth, perhaps, 80 to 100 dollars), no ten bridges on that trail are together as considerable. This part of the route might be easily made a good carriage-road by means of two bridges, one of which, however, on to the bench at Cayoosh, would be a considerable undertaking. The rest of the distance would be a very simple matter indeed. The ground is flat and tolerably clear, the bottom very sound, large coarse gravel, affording excellent foundation; and there is on different slides from the cliffs any amount of beautiful naturally-broken macadam of any size. The actual trail shrinking from crossing the stream follows generally a narrow, rocky, precipitous, winding goat-path along the cliff. The mules follow the other trail partly.

On Lake Seton there is excellent access to the water; it never freezes. There are here two or three houses used by the boatmen and muleteers. This little settlement I suggest may be called Seton Foot. There is a very good whale-boat and a scow in bad condition on this lake. The mountains come down on it so steeply for the greater part of its length on both sides that I should consider a road out of the question.

At the upper end there were also a few houses, and another boat building, probably launched by this time. It is stated that from the point where the Nkoomptch and the Cayoosh join, the valley of the Cayoosh Proper leads to another large lake, which leads to a pass, the other side of which descends on Harrison Lake, a distance of three days. This point of junction of the Cayoosh and Nkoomptch is of course below Lake Seton; it would of course be extremely important to discover such a pass, as it would be shorter than the present Lilloet route from the mouth of the Harrison River to the middle Fraser, especially having in view the very bad access to the upper ends of the Lilloet and Harrison lakes at Pemberton and Douglas. I conceive, however, that a shorter way may be found, which will not pass over any part of the Harrison River, and which may proceed by this Cayoosh Lake across some pass yet to be discovered, down upon a very long valley, which opens upon Fraser River from the north-west, and falls upon Fraser River about 15 miles above the Harrison, and which was noticed last January and marked in the reconnaissance then made. There are a few houses at the upper end of Lake Seton which I suggest might be called Seton Head.

From Lake Seton to Lake Anderson, about 1¼ mile, is practicable for a cart. There seems very little fall in the stream which runs from one lake to the other. It might probably be canalized at no great expense; a steamer could then go from the upper end of Lake Anderson to the lower end of Lake Seton without unloading. I calculated the lengths at 13½ to 14½ miles for Lake Seton, and 12½ to 13 miles for Lake Anderson. They are generally reckoned 3 miles longer, each of them; but boatmen usually exaggerate, and I was as careful as I could be and reckoned both by estimation and time. A steamer would be very useful, as we found on all the lakes. On every one we found either a dead calm, or a fresh breeze blowing up or down the lake, sometimes both ways at the different ends, which greatly delays the navigation in the row-boats now in use. On two lakes we had favourable winds; on two we were delayed for 24 hours by contrary winds.

At the upper end of Lake Anderson there is a pretty little site for a small town. The Lilloet trail, properly so called, commences here. It is a cart-way for some little distance; it might very readily, and for a few hundred dollars, be made practicable for carts for some miles, indeed at a very small expense for the whole distance to Lake Lilloet. It generally follows the old Indian trail, which may be seen here and there swerving to the one side or the other. It only deviates in two places close to Lake Anderson, and again a few miles before arriving at Lake Lilloet, in both instances apparently to avoid bridging streams which the Indians forded, and which could be bridged, the first for a very few score, the second for a very few hundred dollars. The deviations in each case appeared to be larger for the worse. There are many places in which a slight deviation, and the removal of a few barrow-loads of earth, or of a tree or two, would have effected a great improvement; but there the trail was followed.

The other deviation, near Lake Lilloet, leads by a shorter road over a hill to the lake. The Indian trail proceeds down the watercourse to the River Lilloet, some few miles above the head of the lake where there are reported to be some 5 or 6 square miles of exceedingly rich prairie-land. If the road were carried by a bridge across the Homush or Xoblish River, and again across the Lilloet, it would run nearly on a level all the way from Lake Anderson, and would open out this fertile valley, and fall on the Lilloet Lake at a point much better adapted for a harbour than that selected, and which is only approachable within three-quarters of a mile when the lake is flooded. On neither side of the lake, indeed, is there any space for even a goat-path, unless it were hewn away. But on the side actually chosen (the E, or left side), there is for miles from the lake no place where three houses could be placed together; the ground is so excessively rocky and irregular, and there is no natural facility for forming a harbour. On the right side of the lake there are two islands which seem to invite a couple of spars to be laid, which is all that is necessary to form a beautiful harbour; and the country, once escape a couple of hundred yards from the lake, is capable enough of being built on. There is at present a complete monopoly thrown into the hands of the restaurateur in the only building at Pemberton.

Lake Lilloet is quite impracticable, I conceive, for a road along its shore. The terminus at the lower end (where there is also a restaurant) is very badly placed, and the people were about to remove it 400 or 500 yards lower down.

This lake connects, by a twisting rapid stream of about 1200 yards, with the Little Lake Lilloet, extending 6 miles further. This may at some future day be canalized so as to allow a steamer to run about 21 to 22 miles without unloading. At present the navigation of the upper lake stops above the rapids, and as a good level road may easily be made along the edge of the lake on the left shore, where the ground is flat, well wooded, and not too much underwood, not subject to overflow—in short, very well adapted for a road; not much use can perhaps at present be made of this lower or smaller lake.

For 20 miles further there might easily be a cart-road carried down the Lilloet, which it would probably be necessary to bridge twice. Mr. Nicol conjectured that a good bridge might cost 800 or 1000 dollars, but this was of course an estimate of the loosest description. There are some very curious hot-wells about 13½ miles from the lower end of the Lilloet Lake. The water issues from a mass of conglomerate 6 or 8 feet high, and the same width partially imbedded in the hill-side. From the centre issues the hot spring, large enough to fill a trough of the area of 4 inches square, probably at the height of about 2 feet from the bottom of the rock. On each side, out of the same mass of conglomerate, there issues a spring of cold pure water of about the same bulk, and all three unite in a small pool, and form one stream, which falls into the Lilloet about 100 yards off. The trees in the neighbourhood are of a singular vigour and beauty, both hemlock, cedar, &c., and also maple and other deciduous trees. The water is extremely soft and agreeable to wash in; it has a slight sulphureous taste, and also is slightly chalybeate. It has a very perceptible odour, but is perfectly clear and colourless. We had no means of testing its temperature accurately, but even after some admixture of the cold springs it is hotter than the hand can bear; I should say probably 140° F. We gave to it the name of "St. Agnes' Well."

The last 15 or 20 miles of the trail towards Port Douglas undoubtedly present greater difficulties than all the other part of the Lilloet route; and the worst part is that immediately falling on the Harrison Lake, which at present terminates at Port Douglas. This situation, though romantic and beautiful, and offering to vessels lying in its little lake a secure harbour during seven or eight months in the year, has such natural defects, that nothing but necessity can justify its adoption or retention for a moment. For four or five months in the year, if not for a longer period, it may be said to be inaccessible either by land or water, except on foot.

It is situated at the foot of a hill. The trail ascends, for upwards of an hour, immediately from high-water mark, and we found the greater part of this hill encumbered with snow to such an extent (18th April), that pack-mules could only make 10 miles in two days, and were nearly exhausted with that distance. In summer-time the snow will not be there, but the waters will then be out, and it is to be apprehended that some parts of this trail will be less passable in June than in April. The snow though often 4 and 5 feet deep, had begun to melt a good deal during the day, though it generally froze again at night, and the trail was in several places for 100 yards ankle-deep in water; indeed, it often appeared as if the trail had been led into and along the dry bed of some watercourse by the persons who undertook to make the trail; a plan which is open to the objection, that when the waters are out, and a road is most needed, the road is at its worst. This observation is not to be confined to the portion of the trail next Port Douglas; on the contrary, this part shows more frequent indications of the hand of man than any other portion of the route. At one point, however, it is particularly annoying to find that the trail is conducted up and along some rather unusually broken ground with the very centre and strength of a waterfall of considerable size, far more than sufficient to turn any ordinary mill; and although we were able to scramble round it at a considerable risk of a tumble, and ankle-deep in water, it is probable that neither mule nor man can pass there in June; neither mule nor man could have stood on the trail when we were there. The waters were not out when the trail was laid out, and it is of the utmost importance that the whole locality should be carefully surveyed before the floods, and then again when they are at their height.

To return. Behind Port Douglas there stands this difficult hill. Before it lies a frozen lake for four months in the year, and when it is thawed (it had been quite open for some time when we were there) this little lake, about 2000 yards long by 250 to 600 wide, communicates with Harrison Lake by a tortuous, shallow, rapid stream, bearing only 12 inches water at its shallowest part (19th April). There is some flat land at the mouth, on both sides, but on the right bank liable to overflow, on the left dry; but both are liable to be frozen up by an unimportant bar of ice, however, compared with that which obstructs Port Douglas.

It is always referred to by storekeepers and carriers as the very worst and most difficult part of the whole trail to effect a transit over the frozen inner lake. A road might easily be constructed of a mile and a half in length along the left shore of this lake to the flat in question, which, however, will never be a good site; better, however, than the present, which if even the narrow channel and hill be disregarded or improved, has an irremovable objection in its ice, which this plan would avoid. It is densely wooded, so is all the valley behind Port Douglas.

On the right bank of the Lilloet a large flat is formed analagous to the delta at the mouth of many rivers, at present bearing a most magnificent growth of timber, principally cedar and hemlock. The soil is alluvial, and decayed vegetable matter, forming a rich red mould.

One or two small streams from the mountains north-west of the Harrison Lake fall through it. It is possible that a town might be raised here. In many respects it would have great advantages; it would have an open port all winter, and a level road up the valley of the Lilloet; whether it could be carried up that valley for 4 miles (where we quitted the stream), or even higher, by crossing and recrossing the stream, Mr. Nicol will probably report. We conceived that it would do for the site of a town when cleared, but the clearing would be very expensive; floods would probably, at all events occasionally, overflow the greater part of the level, and the bridging difficulties might be serious.

The Lilloet here is very violent, as is shown by the enormous bulk and quantity of drift-wood with which the upper end of Harrison Lake is strown, and which far surpass anything I have ever seen. We attempted to ascend it, in hopes of arriving at some level ground which we had been assured exists at a distance of 3 miles from the lake, and accessible for navigation; but, although the river is navigable for canoes, we satisfied ourselves that steam navigation was impossible. There is a fall of 15 feet in the 250 yards immediately above the lake, and a tortuous channel besides.

Bad as any harbour must be at this end of the lake, this side (the extreme right of the river-mouth) offers the best position; and, with the aid of the driftwood, a floating breakwater might be made. The only winds which are ever felt, apparently blow up and down the lake; and we found on our passage that the winds follow the shores.

It was surprising, with a population so unsettled, so often—a great part of it at least—changing, and so little habituated to the presence of law or justice, to find very few complaints, none of violent crimes.

It was alleged that liquor was sold unscrupulously to Indians. Some cases of alleged breach of contract, which the defendants maintained to be mistaken contracts, were brought forward; and it was also given us to understand that those who brought such circumstances to our notice were amongst the most audacious infringers of the law when the officers of the law were absent. It is of course impossible ever to do sudden justice under any written system of laws, and our efforts were not always successful in endeavouring to obtain in any way immediate satisfaction. But in a political point of view, these individual mischiefs were lost sight of, when it appeared that there was on all sides a submission to authority, a recognition of the right, which, looking to the mixed nature of the population, and the very large predominance of the Californian element, I confess I had not expected to meet. On the banks of the Lilloet there are very remunerative diggings, which I mention (though well known already) in order to make the remark that the gold in British Columbia is not all brought down by the Fraser, nor is the source of the gold confined to one region only in the canoe country or elsewhere. The Upper Lilloet Valley is separated from the Fraser by mountains in such a way as to exclude the idea that its course is through the primeval bed of some lake into which the ancient Fraser emptied all these treasures, or if not, the result would be the same, since the lake must have included half the colony at least.

The landing and embarking at Port Douglas appears to be extremely inconvenient. A great part of the town apparently will in June be standing in the water, and so far it will be convenient that barges should come alongside of the stores; but goods will have to be moved in boats, and I should think it must be very unhealthy. It is by far the most active, stirring-looking place we saw, nearly as large as Fort Yale.

The shores of Lake Harrison are in general steep to the water, and inaccessible for roads. There are some important breaks in the left shore, leading, as is believed, to the Cayoosh Lake. Another, near the foot, is reported by the Indians to lead in three days to the Forks of Thompson River.

But the rapids between the lake and Fraser River offer a very serious obstacle to the navigation here, and it may be that a short portage across from Fraser River into Harrison Lake may be found advisable from a point above the mouth of Harrison River into the lake near the hot spring, which we did not visit, but named "St. Alice's Well."

The distance from the lake to Fraser River I estimated at 11½ or 12 miles. The greater part of this is navigable for vessels of considerable draught. There is a shoal all along the exit from the lake bearing 5 to 6 feet in its shallowest part. About half-way down to the Fraser a considerable river comes in on the right bank, flowing from the reverse of the mountains, or rather hills, which lie west of Harrison Lake. This seems to change the nature of the current; however, from whatever cause, I never saw a river-bed present a similar appearance. The shoals being flat and liable to overflow, the river proper occupies a bed of some mile or mile and a half in width, extremely irregular in depth, gravelly, sometimes 9 feet deep, and at a boat's-length down the stream not 9 inches. The boatmen allege that this is caused by the salmon digging with their snouts. Giving the greatest credit to the fish and fishers for their industry and love of the marvellous, I thought it much more nearly resembled the effect of the "ripplemark" observed in sands at low tide, and also in dry sands exposed to steady winds.

But I never saw the appearance on such an enormous scale. In the summer, when the waters are high, stern-wheelers can pass. But it must take a vast increase in the body of the water, and equivalent to a great many inches rise in the Fraser itself, to raise the surface of this part of Harrison River by a single inch, being very rapid and of the breadth I have mentioned.

The remainder of my route is so well known to your Excellency that I shall gladly bring this extremely lengthy communication to a close.

The chief points which struck me, to make a brief recapitulation, were,—

1. The ready submission of a foreign population to the declaration of the will of the Executive, when expressed clearly and discreetly, however contrary to their wishes.
2. The great preponderance of the Californicised element of the population, and the paucity of British subjects.
3. The great riches, both auriferous and agricultural, of the country.
4. The great want of some fixity of tenure for agricultural purposes.
5. The absence of all means of communication, except by foaming torrents in canoes, or over goat-tracts on foot, which renders all productions of the country, except such as, like gold, can be carried with great ease in small weight and compass, practically valueless.

Distances.	Miles.	Days' Journey.	Remarks.
Fort Yale to—			
Spuzzem	..	1	Much snow; regained the river after 4 miles.
Quayome (Boston Bar) ..	..	1½	
Lytton (Fort Dallas), Thompson Forks	..	2½	
Foster Bar	..	1½	
Fountains	..	1	
Cayoosh	..	½	This is ½ a day, including the starting, unloading, &c., and ferry: it is a perfectly clear meadow.
Seton Foot.			
Seton Head (length of Lake Seton to Lake Anderson)	1¼	..	The boatmen say 18 miles.
Anderson (the length of Lake Anderson).	..	..	The boatmen say 16 miles.
Pemberton (on Lake Lilloet)	24¾	2	There is a good halfway-house.
Lake Lilloet (length upper lake).			
Hot springs, including lower lake 6 miles long.	13½	1	
Port Douglas (lower end Harrison Lake)	21	2	Another extra day for mules, 4 days from Lake Lilloet to Port Douglas.
Harrison River (from Lake to Fraser).	12	hours. 14½	From Port Douglas fore winds and down stream.

On foot the whole way except on the lakes and below Harrison Lake. The distances are estimated partly by adding the different distances arrived at as we came along the trail, some by time and estimated rate of speed. We generally walked 7 or 8 hours besides stoppages, sometimes 10 hours.

XIX.—*Explorations in Jarvis Inlet and Desolation Sound, British Columbia.* By Mr. W. Downie.

Communicated by Sir Edward Bulwer Lytton, Bart., F.R.G.S., &c., H. M.'s Secretary for the Colonies.

Read, December 12, 1859.

Mr. William Downie to Governor James Douglas.

Sir, Victoria, Vancouver Island, March 19th, 1859.

I have the honour to inform your Excellency of my return to Victoria, after a sojourn of sixteen weeks in British Columbia.

I have been for the last month in Desolation Sound. The snow and rain set in, so as to make it impossible to start over the mountains from the head of Jarvis Inlet to the Upper Fraser River for some time.

I then thought it would be as well to visit the Klahous country, as I had heard a great deal about it.

We started from the head of Jarvis Inlet on the 22nd of February for Desolation Sound, in a small canoe with four Indians, pick, pan, shovel, and rocker; came down the west entrance of Jarvis Inlet, which is much better than the eastern. From Scotch-fir Point, up the coast, it is shallow, and rocks and reefs running out a good distance from the shore.

It was most refreshing to come down on the gulf, where the land had all the appearance of spring, and after being so long up the inlet. No snow on any of islands along the coast except Taxada. Savary Island has all the appearance of a farm under cultivation, from the abundance of grass on it: large patches of farming-land make it look very enticing, but the water is scarce for farming purposes; but there are excellent pastures for stock all the year round. The mainland opposite this island changes in appearance with regard to the rock formation: quartz and slate along the shore up to Sarah Point.

We arrived safe in Desolation Sound, which does certainly look somewhat desolate in a snow-storm, but I am well pleased with the prospect of this section.

This is the first time I have seen pure veins of sulphuret of iron, which looks very much like silver. The first I saw of it was a small square piece in the possession of an Indian: I offered him some tobacco for it, but he would not part with it, even if I gave him its weight in gold. I came across a number of seams of the same kind. It lays in the quartz, the same as gold. I have no idea that the gold is confined to Fraser River alone; and if it can only be found from the seaboard, or on the rivers at the head of some of these inlets, the country will soon be prospected.

Bute Inlet (Homattheo), that runs so much farther north than this inlet, has a large river emptying into it from the north-west. This river looks most favourable for gold, and I should much like to have prospected it; but the Indians would not go, as they were afraid of the Euclitus tribes: the principal reason, however, being that the canoe was small, and we were not altogether prepared to give it a fair trial. It was snowing most of the time, and rather discouraging.

Camped near the Klahous Indian village, they paid me a visit, as a matter of course, and I gave them all a small piece of tobacco. They seemed well pleased; but they would have a look at our mining-tools, canoe, and blankets, and our general appearance. When they had satisfied themselves on these points, they told my Indians I was not a Tyee—meaning a chief, a person of consequence (this was the unkindest cut of all). My Indians told them I was a Tyee; but it was of no use. They said a Tyee would have a large canoe and plenty of blankets: whereas there was nothing of the kind visible, only picks, pans, and an old rocker,—and what was the use of that among Indians?

I did not feel disposed to find fault with the poor Klahous Indians for judging from outward appearance, and, upon the whole, I got along with them very well. We got a few potatoes from them, so there must be something else besides rocks in Desolation Sound.

We went up to the head of the inlet, where the "Deserted Village" is on the map, but there were no Indians there. It looked as much like a deserted village as it did when it was named by Vancouver. About two miles above this, the river comes in from the north-east. The sand washing out of the river has formed a large flat at the head of the inlet, in some places dry at low-water. We had some difficulty in getting the canoe into the river, which is also shallow, being filled up with sand from the continued wash from the mountains.

We went up the river about five miles. The Indians told me it would take five days to go to the head of it. Judging from the way a canoe goes up such rivers, the distance would be about sixty miles, which must be a long distance above the Squamish, and would not be far from the Lilloet. The Indians have gone this route to the head of Bridge River (Hoystier), which it may prove to be the best route to try. It is very evident there is a pass in the Coast Range here, that will make it preferable to Jarvis Inlet or Howe Sound. If a route can be got through, it will lead direct to Bridge River.

I have seen more black sand here in half a day, than I did in California in nine years: it looks clear and bright as if it came from quartz.*

Seeing that it was out of the question to proceed farther, we put back and came down along shore, breaking and trying the rocks, but did not discover any gold. Lots of iron pyrites or sulphuret of iron.

The land on each side of the river is low, and must be overflowed in many places in spring; but for all that, if a trail can be found through, it will not be difficult to make a road along the banks of the river.

In coming down we passed through what on the map is called the Island "Redonda." This is a fine passage, and shortens the distance about ten miles in going to Klahous Inlet.

The distance from Klahous Inlet to Homattheo Inlet (Bute Inlet on the chart) is about 30 miles; but I could not get the Indians to go in the small canoe.

The Indians told me that the colour of the water in the large river that comes in at the head of Homattheo from the north-west, was the same as Fraser River; and thus when I proceed thither, I should be in or near the range of Queen Charlotte Islands, where I should get gold.

We had a hard passage to Nanaimo; but arrived all right, paid off the Indians, and heard from Captain Stuart that he had forwarded supplies to Jarvis Inlet by order of your Excellency, so that I was all ready for a start again to Desolation Sound, if I could obtain a small decked boat.

Fort St. James, Stuart Lake, New Caledonia,
10th October, 1859.

SIR,

I beg to make the following report of my trip to Queen Charlotte Islands and my journey thence by Fort Simpson to the interior of British Columbia.

Having left Victoria on the 27th July, with twenty-seven practical miners, with stores, &c., for three months, we arrived in Gold Harbour, Queen Charlotte Islands safely, on the 6th August, and immediately set about prospecting.

We examined the spot where a large quantity of gold was formerly taken out, and discovered a few specks of it in the small quartz-seams that run through the slate; two of the party blasting the rock, while others prospected round the harbour.

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* **Magnetic iron ore?—R. I. M.**

I then proceeded in a canoe to Douglas Inlet, which runs in south of Gold Harbour, hoping to find traces of the Gold Harbour lead, but without success. The nature of the rock is trap or hornblende, with a few poor seams of quartz straggling over the surface. Granite was found at the head of this inlet, but not a speck of gold. Next day we went up an inlet to the north of Gold Harbour, and here a white rock showed itself on the spur of a mountain.

After a difficult ascent we found it to be nothing but weather-beaten, sun-dried granite, instead of quartz. Farther up the inlet we saw a little black slate and some talcose rock, but nothing that looked like gold. On our return, we found that the men engaged in blasting the rock had given it up; the few surface specks being all the gold that could be found.

The large amount of gold that was formerly found with so little difficulty, existed in what is called an offshoot or blow. The question then arises how did the gold get here; some of our party were of opinion that a gold-lead exists close at hand, but it can only be put down to one of the extraordinary freaks of nature so often found in a mineral country.

The offshoots in question are not uncommon, as 'I have often seen them in California. On such a discovery being made, hundreds of miners would take claims in all directions near it, and test the ground in every way, but nothing farther could be found, except in the one spot, about 70 feet in length, running south-east and north-west; on being worked about 15 feet it gave out. Before work commenced I have blown the sand off a vein of pure gold.

I now proposed to test the island farther, and started for the Skidegate Channel. At a village of the Crosswer Indians, where we were windbound, the appearances were more favourable. Talcose slate, quartz, and red earth were seen. We tried to discover gold, but without success. Sulphuret of iron was found in abundance, and we discovered traces of previous prospectings; the Indians understand the search for gold well, and detect it in the rocks quicker even than I can.

The coast from the Casswer Indian village to Skidegate Channel, is wilder than any I have ever before travelled, and we did not care to hunt for gold in such a place. Five Indians were drowned here to-day, while fishing.

At the Skidegate Channel we found black slate and quartz prevailing; farther north granite appears, and then sandstone and conglomerate; and as we were now in a coal country, it was no use to look for gold.

We saw coal here, but I cannot speak as to its quality, not being a judge of it. The formation is similar to that of Nanaimo. From this we returned to Gold Harbour, where a party which had remained behind to prospect inland had met with no better success than ourselves. We then consulted what was the best thing to do; I did not wish to return to Victoria, as your Excellency had desired me to explore some of the inlets on the mainland, and I left Gold Harbour with a party of fourteen men for Fort Simpson, where we arrived in eight days. The north-west coast of Queen Charlotte Islands is a low sand and gravel flat, having no resemblance to a gold country.

I left Fort Simpson for the Skeena River on the 31st August. From Fort Simpson to Fort Essington is about 40 miles; the salt water here is of a light-blue colour, like the mouth of Fraser River, and runs inland about 30 miles. The coarse-grained quártz of Fort Simpson is no longer seen here, and granite appears; and the banks of the river are low, and covered with small hard wood and cotton-trees, with some good sized white oaks, the first I have seen west of Fraser River.

Vessels drawing upwards of 4 feet of water cannot go more than 20 miles up the Skeena River, and it is very unlike the deep inlets to the southward.

At our camp here some Indians visited us, and told us that they were honest, but next morning the absence of my coat rather negatived their statement. Next day we found the river shoal even for loaded canoes, as it had fallen much. At our next camp I went up a small river called Scenatoys, and the Indians showed me some crystallized quartz, and to my surprise a small piece with gold in it, being the first I had seen in this part. The Indian took me to a granite slide whence, as he asserted, the piece of quartz had come. I found some thin crusts of fine quartz, but no gold. From the river Scenatoys to Fort Essington, at the mouth of the Skeena River, is 75 miles ; a little below the Scenatoys an Indian trail leads to Fort Simpson, through a low pass, and the distance is not great.

From this, 10 miles farther up was a river called the Toes. On the south side hence is an Indian trail to the Kitloops on the Salmon River, the south branch of Salmon, which river is called Kittama.

By this time we were fairly over the coast range, and the mountains ahead of us did not look very high; the current here was very strong and much labour was required to get our canoe along, and we had to pull her up by a rope from the shore.

Gold is found here, a few specks to the pan, and the whole country looks auriferous, with fine bars and flats with clay on the bars ; the mountains look red, and slate and quartz were seen.

The next camp was at the village of Kitalaska, and I started in a light canoe ahead of my party, as our canoe, by all accounts, could not proceed much farther, and I then determined to penetrate to Fort Fraser. The Indian who was with me, told me that a large stream called the Kitchumsala comes in from the north, the land on it is good and well adapted for farming, and that the Indians grow plenty of potatoes. To the south is a small stream called the Chimkoatsh, on the south of which is the Plumbago Mountain, of which I had some in my hand, as clear as polished silver, and runs in veins of quartz.

Near to this on a tree are the words " Pioneer, H. B. C.," and nearly overgrown with bark ; the Indian told me it was cut by Mr. John Worth, a long time ago.

From this to the village of Kitcoonsa the land improves, the mountains recede from the river and fine flats run away 4 or 5 miles back to their bases, where the smoke is seen rising from the huts of the Indians engaged in drying berries for the winter. These Indians were very kind to us, and wished me to build a house there, and live with them.

Above the village of Kitcoonsa, the prospect of gold is not so good as below. As the season was so advanced I was not able to prospect the hills which look so well, and unless the Government takes it in hand, it will be a long while before the mineral resources of this part of British Columbia can be known. This is the best-looking mineral country I have seen in British Columbia.

From here to the village of Kitsagatala the river is rocky and dangerous, and our canoe was split from stem to stern.

At Kitsagatala we entered a most extensive *coal* country, the seams being in sight and cut through by the river, and running up the banks on both sides, varying in thickness from 3 to 35 feet.

The veins are larger on the east side and are covered with soft sandstone, which gives easily to the pick ; on the west side quartz lines the seams, which are smaller. The veins dip into the bank for a mile along the river, and could easily be worked by tunnels on the face, or by sinking shafts from behind on the flats, as they run into soft earth.

I have seen no coal like this in all my travels in British Columbia and Vancouver Island.

We experienced some danger from Indians here, but by a small present of tobacco, and by a determined and unconcerned aspect, I succeeded in avoiding the danger of a collision with them. We could go no farther in the canoe than Kittamarks or the Forks of the Skeena River, and we had been twenty days from Fort Simpson, though the journey could have been done in a third of that time.

On the 21st September I left Kittamarks with two white men and two Indians, and started over a fine trail through a beautiful country for Fort Fraser. We crossed over an Indian suspension-bridge and entered some first-rate land, our course being about east; we completed about 12 miles to-day. Next day it rained hard, but we succeeded in doing 12 miles again, passing through as fine a farming country as one could wish to see. To the south-east a large open space appeared, and I have since learnt that a chain of lakes runs away here, being the proper way to Fort Fraser, but as I always follow my Indian guides implicitly, I did so on this occasion. The third day the weather was fine but the trail not so good; it ran along the side of a mountain, but below the trail was good and grass abundant. My Indians started after a goat up the mountain, but were quickly driven back by three bears. The fourth day we crossed what is called the Rocky Pass, which may be avoided by keeping the bottom. To the north a chain of mountains were seen covered with snow, distant about 30 miles, where the Hudson Bay Company have a post called Bears' Fort; to the south is the Indian village Kispyaths; along the bottom runs the Skeena past the village of Allagasomeda, and farther up the village of Kithathratts on the same river.

On the fifth day we encountered some dangerous-looking Indians, but got away from them. We passed through a fine country with cotton-trees and good soil.

We now arrived at the village of Naas Glee, where the Skeena River rises We were again on the river which we had left five days ago, having travelled 55 miles, when we might have come by the river. We had great difficulty with the Indians here, and it was fortunate that I knew the name of the chief, as otherwise they would have seized all our property; as it was, they surrounded us and were most importunate; one wanted my coat, another my gun, a third took my cap from my head, and I really thought that they would murder us. These Indians are the worst I have seen in all my travels. Naas Glee is a great fishing-station, and all the worst characters congregate there to lead an indolent life. Thousands of salmon were being dried at this village.

We hardly knew what to do, as they told us that it was ten days to Fort Fraser, and if we returned they would have robbed us of everything. I therefore determined to go on, if the Chief Norra would accompany me, and on giving him some presents he consented to do so. The river from Naas Glee downwards is very rapid, but as the banks are low and flat, a waggon-road or railroad could easily be made.

The land around Naas-Glee is excellent, and wild hay and long grass abounds. Potatoes are not grown here, owing to the thieving of the Indians. There is no heavy pine-timber hereabouts, and the canoes are made of cottonwood.

Above Naas-Glee the river was very rapid, and it required all our energy to get along, as we had but a small quantity of dried salmon to last us ten days. Ten miles above Naas-Glee is an old Indian village, called Whatatt; here the shoal-water ends, and we enter the Babine Lake. Going through a fine country, we accomplished 20 miles this day, the lake being broad and deep. Next morning to my surprise I found a canoe at our camp, with Frenchmen and Indians, in charge of Mr. Savin Hamilton, an officer in the service of the Hudson Bay Company from Fort St. James, Stuart Lake, New Caledonia, whither we were bound. He was on his way to Naas-Glee to purchase fish, and advised me to return with him to Naas-Glee, and then to accompany him to Stuart Lake, but as I had seen enough of Naas-Glee I declined his offer, with thanks. Mr. Hamilton expressed his surprise that we had managed to get away from Naas-Glee, as we were the first white men who had come through this route; and even he found much difficulty with the Indians there. Having persuaded Narra, the chief, to let us have his canoe, we bid farewell to Mr. Hamilton, and proceeded on our journey.

It was fortunate that we sent back our two Indians, as otherwise we should have suffered from want of food, and as it was, we reached Stuart Lake only with great difficulty. We made a fine run to day before a fair wind to Fort Killamoures, which post is only kept up in the winter. Our course from Naas-Glee to this place was south-east, and the distance about 50 miles. The land is good the whole way, with long grass on the benches near the fort, which is a very lonely place. It is a great pity to see this beautiful country so well adapted to the wants of man, lying waste, when so many Englishmen and Scotchmen would be glad to come here and till the soil. Babine Lake is deep, and in some places 5 or 6 miles wide, with islands and points of land to afford shelter from storms; from Fort Killamoures to the head of Babine is about 40 miles, direction south-south-east. From the head down about 20 miles, it runs east and west. We arrived at the head of Babine on the seventh day after leaving Naas-Glee: we had seen no Indians nor snow, and had made a favourahle journey.

The district we had passed was well adapted for farming; some of the land is rocky, but on the whole it is a fine country.

At the head of Babine Lake there is a good site for a town, and a harbour could be made, as a stream flows in which would supply the town with water. This is what I call the head-water of the Skeena River; the lake is navigable for steamers and 100 miles in length.

From this to Stuart Lake there is a portage over a good trail, through the finest grove of cotton-wood I have ever seen; the ground was thickly strewed with yellow leaves, giving the scene quite an autumnal appearance, and presenting a picture far different to what we expected in this part of British Columbia.

Six miles from Babine, we came to a small lake where were some Indians fishing herrings: on our approach they appeared undecided whether to run or remain. I asked them for some food, and they soon provided us with some fish which refreshed us much, and having paid for our repast, we started again. From this a small stream runs a distance of 4 miles to Stuart Lake.

Arrived at Stuart Lake we found no means of crossing, no Indians to direct us, and no food to sustain us, nor had we any shot to enable us to kill ducks. We camped here three nights without food, sleeping the greater part of the time to stifle our hunger. The only thing that supported us was the great idea of the enterprise in which we were engaged, having been the first to explore the route from the Pacific to Fraser River.

One of our party found an old canoe split to pieces; this was rigged on a raft of logs, as well as circumstances would admit.

I returned to the Indians above mentioned and purchased a few herrings, and walked back to our camp with difficulty and found my limbs giving way. Next morning we started on our frail raft, expecting every moment to go down; we were obliged to sit perfectly still, as the least movement would have upset us; a slight breeze sprung up and a small sea washed over us and we had to run for a lee-shore, where kind Providence sent an Indian to succour us. He welcomed us with a "Bonjour," invited us to his lodge and gave us most excellent salmon-trout from the lake. We had at last reached this spot with thankful hearts for our preservation through so many dangers. We stayed a night with this good Indian, and next day gave him a blanket to take us to the Fort. We abandoned our old canoe without regret, and proceeded towards our destination. The Indians all along this were very kind to us. About half-way across Stuart Lake we obtained a small prospect of gold. On the north side of the lake for about 20 miles the ground is rocky, but south toward the Fort the land is good and will produce anything.

We reached Fort St. James on the 9th October, and were received by Mr. Peter Ogden with that kindness and hospitality which I have always found at the Hudson Bay Company's ports.

The Fort is very much exposed to all winds, and I found it colder than anywhere on the journey.

Stuart Lake is 50 miles long. The portage to Babine 10 miles; Babine Lake 100 miles; from Naas-Glee to Fort Simpson 250 miles, and 200 miles from Fort Simpson to Gold Harbour, Queen Charlotte Islands.

The names of the two men who accompanied me were William Manning an Englishman, and Frank Chotean a French Canadian. It is possible that I shall prospect the Fraser a little farther this fall.

Extract from the 'Pioneer' and 'Democrat.'

From the 'Dalles Journal,' October 24. New and Rich Gold discoveries on the Si-mil-ka-meen River.

An Expressman named M'Guire, arrived at the Dalles in the early part of the week from Captain Archer's command, reports the discovery on the Si-mil-ka-meen River, about 5 miles from the camp. According to our informant, the discovery is confined to a small bar on the river, which is being worked by soldiers, Quartermaster's men, and a large number of Indians. The men from camp go down after breakfast, walking a distance of 5 miles, and working not more than half a day, average about 20 dollars to the hands. This is without the ordinary conveniences for mining, and with nothing but picks, using frying-pans for washing out. With "rockers" it is estimated that from 50 to 200 dollars to the hands could readily be taken out. We have not learned that any of the neighbouring bars have been prospected, but it can scarcely be possible that the rich deposits are confined to one locality, and when a thorough examination is had, it is more than likely that rich strikes will be made all along the course of the river. M'Guire, who is represented to us as an entirely reliable man, says that he himself visited the diggings and saw the miners at work, taking out gold at a rate fully equal to that stated. It is represented that the officers in command are very anxious to conceal all knowledge of the discovery, they apprehending an immediate rush that in the present condition of the country must be attended with great privations. The nearest point at which supplies necessary to the miner can be obtained is at Colvile, which is over 100 miles distant from the newly-discovered mines. The Indians, too, are represented to be decidedly hostile, and inasmuch as the troops are about to remove, miners would be exposed to constant attacks from savage foes. We mention these facts as a caution against a wild and headlong rush; but should the mines prove half as rich as represented, not all these dangers twice over would serve to check the crowd of gold-hunters that from all quarters will hie to the new El Dorado. The Expressman who brings the news says that he has been all through the California mining districts, but nowhere has he seen dirt that prospected so well as that at the Si-mil-ka-meen gold-mines. The discovery, we are told, was made by Sergeant Compton, in whose honour the locality has been named "Compton Bar."

The effect of this news has been to create quite an excitement in our town, but as yet we hear of no departures for the new gold-mines. Should the next advices confirm these startling reports, we may expect to witness a stampede scarcely equalled by that to Fraser River.

Since writing the above we have been permitted to make the following extracts from letters received at this place from officers of the army attached to the boundary survey.

Although the discoveries made are to a limited extent, yet they prove what we have heretofore asserted as our belief in the existence of gold in that part of Washington Territory, and the Upper Columbia, to be correct.

It is now, however, too late to prosecute the investigation this season, but we do not entertain a single doubt that during the next spring and summer developments will be made which will establish the fact of that part of the country being—as we have always believed it was—equal, in mineral wealth, to any part of California or Mexico.

Extracts from Letters.

"Camp, Si-mil-ka-meen, October 8, 1859.

"* * * I am detached with 14 men at the N. W. B. station on the Si-mil-ka-meen, about 12 miles from its mouth. * * On the 6th my sergeant showed me the result of six pans which he washed, and we found it to be worth 6 dollars. On the 7th two men obtained 20 dollars each; others from 5 to 15 dollars. We have no tools or conveniences, and the men knew but little about digging gold. I give you the simple facts, and shall make no comments. * * * It is much coarser gold than they found on Fraser River, some pieces weighing 2·50 dollars.

"This river is very incorrectly mapped, as it is 150 miles long with numberless tributaries. It is a swollen mountain-torrent till the middle of July, so that it is late before it can be worked. It is my opinion that this gold was washed out of the hills contiguous, this year, as these diggings thus far have been on the *surface only.* You know that gold will always, if you give it time, find its way to the bed rock. I do not know that they will be developed soon as we shall leave here in ten or twelve days, and it will not be safe for a small party to attempt to mine. These Indians want a severe thrashing, and then the country can be travelled with safety. Our command has kept them civil, otherwise there would have been the devil to pay as usual."

"Camp Osoyoos, W. T., October 10, 1859.

"* * * As many gold-fevered letters were doubtless despatched by the regular mail, it may be important to the exciteable population of your city to have correct accounts from the diggings. It is true that a rich placer, yielding from 10 to 30 dollars a day to the hands, has been discovered, 10 miles above the forks; but the gold is confined to a single locality, the extent of which is not more than 25 by 10 yards.

"White, whom I sent out to prospect the stream for 4 or 5 miles above and below the placer, has failed to find it in remunerative quantities at any other point. It seems to be the opinion of experienced California miners that, rich as the placer is, it will be worked out in less than two weeks, and that there is no more gold on the river worth mining.

"I mention all this in order to prevent men who may have heard exaggerated accounts from coming this fall. Possibly next spring or summer, miners might come and discover something better, but to come from the Dallas now would end in nothing but suffering and disappointment.

"I was always confident that gold existed in the mountains of this territory, and expected a discovery by some one of the many expeditions which went out last spring."

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